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## COLLECTIONS AND CREDITS IN WAR TIME.

THE average plumbing and heating contractor has had the reputation of being a poor hand at collections, and his tendency to put practically all of his capital in slow and long term accounts has no doubt a real basis in fact.

During the present period of national activity in war specialization, the importance of prompt collections becomes of paramount necessity. The business man who is today dilatory in meeting his obligations to manufacturer or jobber is not apt to be accorded preferred or first consideration in service, as regards the delivery of materials.

On the other hand the jobber, who is unable to collect from his customers, is going to be dilatory in paying his account with the manufacturer, and he in turn will lose favor more or less with the banker. Hence the importance of prompt collections all along the line is apparent.

Modern credit is constructed upon the chain principle. Every link is correlated and dependent upon each one in the whole chain. One poor link will tend to weaken all the others. The links in the chain of credit, as seen today from the viewpoint of the plumbing and heating contractor, are: The public, the contractor, the jobber, the manufacturer and the banker.

Our entry into the war has naturally precipitated a general tightening up of credits—to the extent that the man, who would continue to finance his business, must not only meet his bills at maturity, but he must collect his accounts in order to do so.

Some plumbing and heating contractors have therefore taken the initiative and have inaugurated a policy of requiring interest on past due accounts.

Upon their letter or billhead stationery, they have printed the notice that six per cent interest will be included on all accounts thirty days past due.

It is stated that this procedure tends to bring the delinquent to time and make him realize more fully that procrastination is the thief of cash as well as of time.

In connection with the subject of interest on collections, a Cleveland plumbing contractor tells a story about John D. Rockefeller and a cow he sold and collected for at six per cent, the account being several months over due. It appears that he wished to dispose of the cow, owing to a superfluity of bovines on his estate. He turned the Jersey over to a neighboring farmer, who had sold him hay, ever and anon. The farmer, it seems, allowed the cow account to run along, until finally one day he received a statement including interest at six per cent. He remonstrated, but John D. was very insistent about it.

"What about the hay I've sold you," asked the farmer. "Did I ever charge you six per cent, although I've had to wait for your checks?"

"Never mind about the hay matter," protested Rockefeller. "My terms are applicable in all my transactions, large or small." The farmer finally decided to settle.

The Cleveland plumbing contractor said that the oil king's rigid six per cent policy would be an excellent one for the men of the plumbing and heating trade to emulate.

Progressive business men are adapting themselves to the conditions ushered in by the war. Credit is the foundation upon which the whole structure of business and industry stands. Without an efficient collection system the stability of credit is endangered. The plumbing and heating contractor, who would discount his bills, must adopt appropriate means to stimulate reasonably prompt collections from his clients. The introduction of an interest policy on accounts past due is therefore worthy of serious consideration.

# How *to* Increase Your Heating Business

*Valuable Pointers on How to Secure More Heating Work During This Summer*

*By* A Successful Steamfitter

Why is there going to be good business?

First: Because the need of new heating plants, new boilers and repairs is urgent in thousands of cases.

Second: Because there is plenty of money in the country to purchase what is needed.

Who are the prospects?

Every one, who failed to go through the past winter without some trouble and inconvenience, is a prospect for something from a few repairs to a complete new system. The unusually cold winter threw a severe strain on all heating plants. As a result those that were old and nearly worn out are now entirely gone. Many plants are too small, necessitating frequent attention and an unnecessary consumption of fuel, and more than likely the heating results were very unsatisfactory. In plants that have been forced for a long time, strains develop and accidents are likely to occur. The heating contractor should point out this danger and the wisdom of forestalling break-downs, which come in the coldest weather.

**There is Profitable Business to be done this Season by the Heating Contractor, and plenty of it. It will not be done by the Man, who sits in his Shop and waits for the Business to come to him. It will go to the Hustler—to the forward-looking Business Man**

Very few hot air furnaces have run through the past winter without undue forcing, resulting in cracked or burnt out fire pots or radiators, and the loosening of joints from expansion and contraction. This means either extensive repairs or a new and more modern equipment.

The fuel situation made a lot of trouble last year and probably will do so for some time to come. You will find plenty of boilers that could not burn the fuel available. In many cases it is imperative that a change be made. A man, who has struggled to keep up heat with a low-grade fuel in an unsuitable boiler, will be a shining mark for the salesman of a boiler that can burn any kind of fuel available.

There are plenty of obsolete boilers that gave just about their last kick this past winter. The repairs on such are unobtainable or may be exhorbitant in price. Here is a chance to sell a new boiler. The greatest amount of trouble, however, will be found to be due to boilers of insufficient capacity.

The field for heating work then is almost unlimited. It is hard to find a man who isn't in the market for something. The problem is first to find the prospect and second to sell him.

Prospects can be located in a number of ways by the wide-awake fitter. He can visit or circularize every job he has ever repaired, and all the furnace or stove heated houses. He can invite inquiries by a little advertising. Make a personal call in every case, where you know the boiler is small or old.

Circular letters are good business getters under these circumstances. Send them to your bankers, your merchants, doctors, farmers—to every one whom you know to be at all prosperous. The chances are ten to one they will need something. Ask them to call you in for consultation, if they have had any trouble of any kind during the winter. That is the opening wedge.

Now, if you have located a prospect how will you sell him?

In the first place and most important:

Don't be a junk man!

The American people want the best.

Don't talk price—talk quality.

Your customer can get a poor article from a mail order house.

Make yourself the quality man of your territory.

Talk first-class material throughout, such as high-grade air valves on steam systems, packless radiator valves, etc.

Find out what the most modern boiler is; the one that will burn any kind of fuel with little attention and maintain the steadiest heat.

Push that boiler.

Don't try to sell the same old thing every one else does.

Don't try to sell the cheapest system.

Hook up with quality goods.

There is greater profit in them and no come back.

Become the heating specialist in your town.

The greatest trouble with the heating business today is that a great majority of contractors have only one idea, and that is beat the other man's price. Whereas the only way any one ever made any money out of the business was to get a reputation of doing good work regard-

less of price. I repeat: Hook up with quality goods!

The easiest thing in the world to sell is a high-priced article, if it is really good. And the easiest competition to beat is cheap competition. People are prepared for high prices at this time.

If you mean to stay in the heating business, take pride in your work. Have confidence in your work and the goods you sell, and you will have no trouble convincing your customer.

Don't try to sell the same old line in the same old way. Don't you know that improvements are being made rapidly in the heating business? Find the boiler with the best selling points. Selling points are simple features, that will make that boiler appeal to the owner as having practicable and useful features that will make it satisfactory for him. Such a boiler is easy to sell. The same with valves, specialties, heating systems or what not.

Study your goods carefully. If you believe in them yourself, you can sell them on their meirts, and the price will take care of itself.

Don't handle anything you will have to apologize for. Look to the future as well as the present.

Suppose you have located a man who is having trouble. The first thing to do is to make a thorough examination of the plant. Don't guess. Find out where the difficulty lies. And having found out, do not hesitate to advise the proper remedy. The remedy that will go to the seat of the trouble. Suppose the boiler is too small or worn out. In such a case no business man in his own plant would advise a tinkering job. He would recognize the business wisdom of making a change that would cure for all time and would be bringing him in returns in economy. Similarly, the heating contractor should not hesitate to advise the thing that will be the best in the long run.

Recommend a new boiler of the most modern and efficient type. One that will burn a variety of fuels, that will be economical and will require the minimum of attention. Point out the saving in dollars and cents that will result from up-to-date equipment as well as the comfort of it and the time saved. A tinkering job is always a source of grief.

Impress on your prospect that a cheap job will not be what he expects and will mean more trouble later. While a good boiler will give perfect satisfaction as long as he lives. Make a decent job of it for yourself, and a satisfactory job for the owner. Don't let him come back again in a few years and say: "Why didn't you recommend to me a modern boiler like my friend Smith installed. It is a long ways ahead of what you gave me."

You will find plenty of people now, who are sick and tired of running down to see to the fire every few hours. They will be in the market for a boiler with a long firing period, such as the magazine type. You should be thoroughly posted along this line. A little study of boiler literature or correspondence with manufacturers will enable you to make more than one sale.

Do not neglect in every case to make a thorough study of the job. Measure it up completely, whether it is a case of boiler replacement or a new job, or just improving the circulation in a few rooms. You can't do yourself or your client justice, until you know all the facts. Knowledge is power. Many a time a study of the figures on a job will give you an insight into the conditions that will surprise you. And nothing gives an owner greater confidence than to see a man start in earnestly and systematically to make a study of his problem. I know of actual instances, where the expensive man got the job for just that reason, where the cheap man walked through the place and announced off-handed the size of radiators for each room and the size of boiler required. Stimulate confidence and deserve it.

And don't fail, when you are taking the measurements, to get the wife on your side. Every one knows that when the wife is sold, the old gentleman has a hard time dodging the contract.

If it is a case of a new boiler, tell her how much her work would be reduced by an improved boiler that requires coaling and shaking only at long intervals. How she will get out of handling either the coal or the ashes under ordinary conditions. How she can get up in the morning to a 70-degree kitchen and eat breakfast in a 70-degree dining room. How she can leave the house in a comfortable security that the boiler will heat the house thoroughly and steadily for the day or longer.

If it is a case of a new plant discuss with her the proper location of radiators in reference to windows and furniture; what rooms are to be heated and to what temperature. Explain how much more healthful a properly heated house is than one that is cold and drafty, especially where there are children or old people peculiarly susceptible to cold. Tell her that dust and dirt from ashes and coal will be banished from the house, and her work made lighter. The lowering of the fire risk should be dwelt on.

When an estimate has been made, you should make a personal call with the strongest sales arguments in your locker. If you have figures on an honest job with the best material, if you believe in your goods, and your ability to install them properly, you will have confidence and confidence is the greatest salesman in the world.

Always look at a job and talk to the owner from the investment standpoint. "The wisdom of an investment depends, not upon the amount of money spent, but upon the soundness of the investment." Make the owner look ahead and appreciate that he should consider the matter as an investment spread over a great many years. Don't ever get tired of hammering it in that the cheapest job is the costliest in the long run.

You cannot expect to sell a prospect, if you haven't got the details of your job firmly in mind, and neither can you expect to sell if you are not intimately familiar with the goods your propose to install. A thorough knowledge of the goods can be obtained by a study of the catalogs or by correspondence with the manufacturer.

Do not overlook the fact that the manufacturer wants to help you and is able to do it. And do not forget to get some literature from the manufacturer in the hands of your prospect. If he is thinking about buying, he will be interested enough to read it. 'Much of the manufacturer's literature is prepared with great care and will go a long way toward convincing the buyer.

If your man thinks he ought to limp along a few years in the hope of a reduction in prices, tell him that, if the war should stop tomorrow, it would be some years before the price of iron would be materially affected. It's true. The tremendous rehabilitation demands, particularly from the railroads, will keep up prices for years to come. Concede for the sake of argument that he will be able to save 10 per cent by waiting for three or four years. He can save more than that in fuel with an adequate, up-to-date plant. And comfort ought to be worth something in dollars and cents. A warm house is more desirable than a new car.

If a man hasn't the money to complete the job, and is a reliable man, take his note and discount it at the bank. It is a fact that heating contractors do not seem to understand fully the possibilities of the banking privilege. The banker makes his money by lending money, and more

loans are made on character than on property. Your bank will be glad to discount a note from a responsible citizen. And by the way, many a heating contractor would be dollars ahead, if he borrowed at the bank and discounted every bill. Establish a line of credit by paying every loan promptly, and it will come in mighty handy in a busy season.

It may be that you will discover that the heating plant, you are called on to doctor, is all right in most respects, but some radiators are too small; or some changes in the piping are necessary to improve the circulation to particular radiators. Maybe the steam air valves are poor, and the owner will listen to the suggestion of replacement. He will want a valve that you can guarantee absolutely, one that requires no adjusting and can't be tampered with, and that a little dirt won't put out of commission. Often placing one such on a radiator will result in the sale for the entire job. If his radiator valves leak you probably can sell a packless valve throughout, instead of an hour's job of packing.

In many cases covering of pipes and boilers would be an economy. In short, you can do something to improve almost every job.

Did it every occur to you that you seldom sell anything to anyone that has not heard of your work from some source or other? In a peculiar way the heating contractor is advertised by the work he has done. Hardly any one buys a heating plant or any part of one that does not have a friend to advise him. A friend, perhaps, that has had some dealing with you. Your prospect may not know anything about the boiler or system your propose to sell him, but he is apt to know what kind of work you do and whether your judgment is to be trusted.

The answer is that the heating man does his best advertising by installing the best stuff in the best way, in the the first place, and in the second place, by giving service. The poorest business man of all is the one that is through with his job, as soon as he gets his money. You realize what service means in the automobile business, but you do not stop to think that it is ever more important in the heating line.

How many plants there are that are properly installed that are not giving satisfaction because of some little thing—something easily corrected. Perhaps it is failure to receive a few first-hand instructions in operating, or grease in a steam or vapor system, or regulator not hooked up properly, or a smoke pipe that sticks too far in the flue. There is a dull season in every winter, when you can visit every job and look after the little things. Fix up the details that have been overlooked, and that may mean the difference between success and failure.

Take the matter of grease in steam or vapor systems. There is nothing that gives so much trouble or is so common a source of trouble. And yet there are plenty of contractors, who do not yet recognize the symptoms. If you have the draft to burn coal, and your boiler does not steam readily, there is grease present. The gauge glass may appear clear, but the grease is there just the same and it must be gotten rid of by blowing off the top of the boiler, with several pounds pressure.

Many a fitter thinks he has blown off the boiler, when he hasn't even touched the grease. If you have trouble, consult the manufacturer and find out how to do a thorough job. One blowing will not be enough, if there is much oil in your radiators and piping. A great deal of trouble would be saved, if on every steam and vapor system there were placed a system blow off cock in the return outside of the return valve or check valve. By this means the radiators and mains can be flushed without letting the oil and dirt back into the boiler. Very little of the oil comes from the boiler. It comes from the radiators and piping, but it does the damage when it works back into the boiler. Care in the removal of grease and dirt will save a world of trouble.

A contractor that neglects the service end is not going to make a success of the business. It is his cheapest and best advertising.

The heating contractor who goes out after business in the way herein outlined, goes after it in an intelligent, energetic way, is going to have plenty to do. Don't go into a decline because there is a war on, but get out and make some money to buy Liberty Bonds with.

## LEGAL DECISIONS.

### Contracts and Sales.

To constitute a valid contract, there must be parties able to contract a consideration moving to the contract, the assent of the parties to the terms of the contract, and a subject-matter upon which it can operate.

In order for a contract of purchase to become effective when entered into by correspondence through the mails, the offer to buy must be accepted by the seller unequivocally, unconditionally, and without variance of any sort, so that the minds of the parties shall meet and assent to the same thing in the same sense. If the terms of purchase as executed by the buyer are varied, the seller is privileged to repudiate the contract in its entirety; but a ratification of a part of the executed contract so varied is a ratification of the whole, and the contract as so altered becomes binding in its entirety upon each of the parties thereto.

When it is possible to do so without contravening any rule of law, the courts will construe a contract as binding on both the parties, where, from the language of the contract, the conduct of the parties, and all the attendant circumstances, it appears that the intention of the parties was that both should be bound by the sale, and substantial justice requires that the contract be given effect.

Under a contract of conditional sale, providing that if default should be made in payment the vendee is to return the property to the seller, the former has not the right to return the goods upon the condition being broken. Upon such default by the vendee the seller has an option to demand return of the property, and the vendee has a duty to deliver it upon demand.

Where the contract involved is one that is covered by the statute of frauds, the complete contract, including an adequate description of the property purchased, must be in writing. But where the contract has been fully executed or performed, the statute of frauds does not apply. And where the terms of the sale are agreed upon and the bargain struck, and everything that the seller has to do with the goods is completed, the contract of sale becomes absolute and the property rests in the buyer. However, the writing will itself furnish sufficient description of the property purchased, when it serves to separate it from the mass or gives such description as will render it capable of identification.—Court of Appeals of Georgia, Division No. 1, in Good Roads Machinery Co. vs. W. A. Neal & Son, 93 Southeastern Reporter, 1018.

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All you are asked to do is to buy only necessary things and then loan—not give—your savings to your Government to help it fight your war.

Our men in the trenches and in the submarine chasers are doing their part. Are you doing your part? Buy War Savings Stamps to your utmost capacity.

# HOT WATER SUPPLY CIRCULATING SYSTEMS

*Notes on the Principles Which Govern Their Operation*

*By* Harold L. Alt

HAVING sized the hot water tank from data presented in the article, entitled "Relation of Hot Water Service to Various Types of Buildings," published in the April 27th issue of "Domestic Engineering," the next problem is to carry this hot water to the points where it is required in the building. For small dwellings circulating systems are seldom used but, for larger residences and buildings, the employment of circulation is imperative, if satisfactory results are to be obtained.

Circulation is not economical; it occasions a fuel loss, which may run anywhere from 10 to 25 per cent of the total fuel used, depending on the relative relations between the quantity of water used and the amount of heat radiated from the line. Circulation also entails more expense in the initial installation, involving as it does the running of a duplicate pipe system back to the source of heat in order to return the water, which becomes cooled in the line, for re-heating.

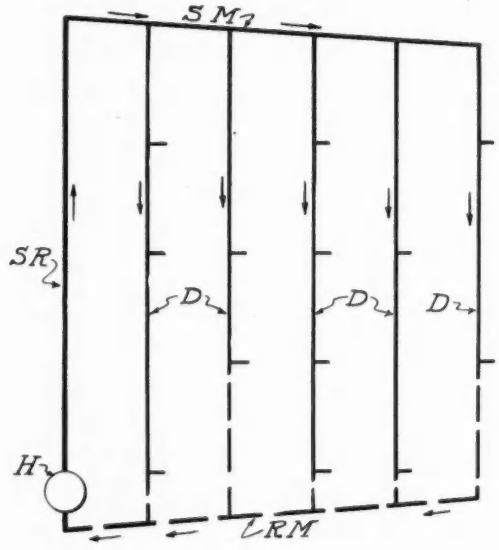


Fig. 1.

Like every other device the best service cannot be accomplished with the cheapest installations, but before investing in good material and workmanship it is necessary that the system be properly designed in order to do the work after it is installed. For this reason many a plumber of perfectly honest intentions, employing first-class workmanship and materials falls down on the result and, after all, the *result* is the only thing that counts both in regard to securing prompt payment and a good reputation.

What is a circulating system? It is a hot water supply system, in which the hot water in the lines returns to the source of heat for re-heating, when it has become cooled by the loss of heat from the pipe line. How many kinds of circulating systems are there? Two, gravity and forced.

What is the difference?

Forced hot water circulation is a movement of the water through the line by positive means such as a pump. In other words the water is "forced" to circulate.

With a gravity system the change of weight in the water, as it cools, causes it to sink down to the bottom of the system, and by placing the source of heat at this low point the water is constantly reheated, and its flow becomes continuous.

Forced hot water is but little used, except for heating

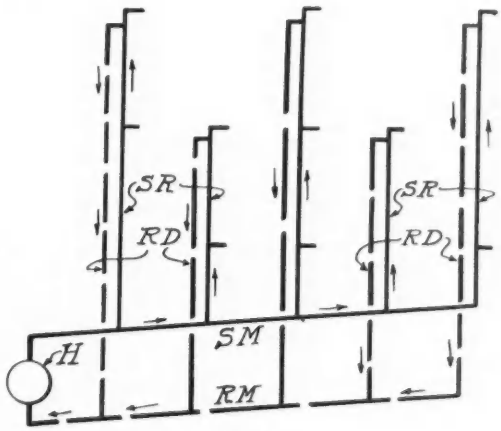


Fig. 2.

systems and in one story buildings covering a large area, but gravity systems are common in almost every large building of any height. This article will be confined to the discussion of the common variety of circulation, viz., the gravity system.

Gravity systems of circulation are divisible in two distinct classes, down-feed and up-feed. The downfeed presupposes a supply main overhead and all connections taken from drops (which are virtually return risers), connecting to a return main at the bottom. A diagrammatic illustration of a typical overhead system is shown in Fig. 1. It will be seen that the source of heat, H, is located at the lowest point of the system and that all the

hot water passes up through the supply riser, S R, to the top (which is also the high point of the system and must be air-vented). From here the water is distributed through the supply, S M, which slopes *down* to the hot water drops, D, from which the service branches are taken. At the bottom of these drops—or from a point below the lowest connection to each drop—a return line is run connecting to the return main, R M, this sloping down to the point, where it rises up to the source of heat, H.

In Fig. 2 is shown a similar illustration for an up-feed system. In this case the hot water is distributed by the supply main, S M, which is located below all the hot water risers and slopes *up* toward the riser; the supply risers S R are branches off of this main and are carried up to the highest fixture outlet. From just below the highest fixture connection a return drop, R D, is branched off and carried back down, connecting to the return main, R M, just as described for Fig. 1.

The principle of operation in Fig. 1 is that the water in the drops, D, becoming cooler than the freshly heated water in the supply riser, S R, consequently contracts very slightly and therefore becomes a trifle heavier than the heated water in S R; this heavier water then tends to sink to the bottom of the system, its place being taken by the more highly heated, and therefore lighter liquid, from S M and S R. The cooler water in settling to the bottom of the system, however, enters the heater, H, and is re-heated rising up in S R and making the movement of the water continuous.

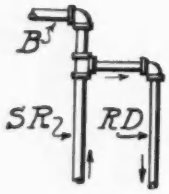

Fig. 3.

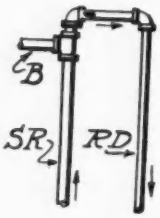

Fig. 4.

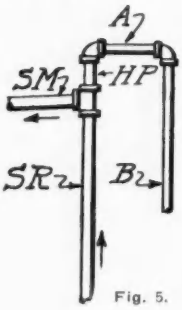

Fig. 5.

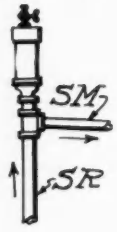

Fig. 6.

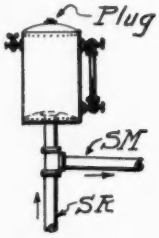

Fig. 7.

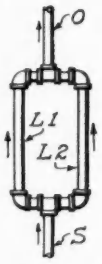

Fig. 9.

In Fig. 2 the heated water rises up in the supply risers, S R, being drawn up by the falling of the cooled water in the return drops, R D, the rest of the operation being similar to that described for Fig. 1.

So far, there is little to cause trouble, and, if this were all that is necessary to produce a successful system, almost every one ever installed would work. But, sad to say, things, not always self-evident on the surface, may intrude to spoil the most carefully laid theoretical plans. The great bane of the hot water circulating system is *air*. Now one might well ask how air is going to get into a closed pipe system, or (having gotten in) why it cannot be let out and permanently eradicated.

In answer to this it may be said that the great trouble-maker and chief air-producer is the water itself. All cold water contains air and gases in solution, which on being heated separate from the water and collect in the shape of minute bubbles, which gradually work themselves to any high point, or pocket, which the system may contain and there collect. If there is no such pocket, they will simply seek the highest point in the system of piping and collect there, gradually occupying more and more of the pipe area, until the water is partially or entirely displaced, and the circulation interfered with or completely stopped. Therefore the correct design of a gravity hot water system consists of:

a. Correctly sizing pipes to supply water to fixtures.
b. Providing proper return pipes to produce circulation.
c. Arranging both supply and return pipes so as to prevent the accumulation of air or so as to relieve such accumulation, before it becomes objectionable.
d. To make this air relief automatic as far as possible.

What has proven as the most desirable method of caring for air, which may accumulate, is to pitch the lines so as to make the air collect at as few points as possible and then to provide some means of relieving this air at these selected points.

In grading the pipe a pitch of not less than 1/10-inch per foot should be used, and the greater the pitch the better the collection of air at the high point. Generally speaking the pitch should be greater when the air must go *against* the flow in order to reach the high point, as in this case the air has to work back against the circulating water, while in the other case the flow of the water will help to carry the air along with it toward the high point, even if the pitch of the pipe is not very steep. Having determined on the location of one or more high points, all piping must slope *upward* toward such points, *regardless of the direction of the flow*. With the "up-feed" system the top of every supply riser constitutes a "high point," and the air there collects, being blown out through the fixture outlet when the faucet on the fixture branch is opened.

Fig. 3 illustrates how the top of such risers should be treated, B indicating the fixture branch, and the other symbols the same as in Fig. 2. Never connect the top of such a riser in the manner illustrated in Fig. 4, since this portion of the pipe above the branch B constitutes a high point, in which air will collect and stop the circulation.

The down-feed system is usually harder to keep from air-binding than the up-feed, but the circulation is better when free of air, owing to the greater temperature differences which are obtained between S R and D (Fig. 1) than between S R and R D (Fig. 2). One scheme used for the down-feed system is to connect a fixture branch B into the high point H P, as shown in Fig. 5; this will serve to allow the air to accumulate in the top of the branch at A, from which it is blown out through B, when the faucet on the branch B is opened. Where the water supply comes from a house tank, and A is high enough to come anywhere near the tank level, this scheme may not work as the water pressure will not be strong enough at this high point to drive the air down through the branch.

Another scheme is to place an air chamber on the high point with a pet-cock for relieving the air collecting in the chamber from time to time; the larger this chamber the longer the periods between times when relief is necessary. Fig. 6 illustrates a typical air chamber made of pipe suitable for medium-sized installations, while Fig. 7 shows a small tank used for this purpose; a common hot

water expansion tank is a very good standard article to use, as this has a gauge glass and indicates at once when the air has collected in sufficient quantity to show up in the glass.

Still another device is a float trap, similar to that illustrated in Fig. 8, arranged so that the air will lower the water level and cause the falling of the float to open an air relief valve. Such traps must work just opposite to the common steam trap, where the *rising* of the float discharges the trap, for in this case the falling of the float must open the discharge.

Care also has to be taken in all circulating systems to prevent drawing through the return, when the fixture outlet is opened. It is a well-known fact that the flow through a double pipe, such as is illustrated in Fig. 9 from the supply point, S, to the outlet, O, will be inversely proportional to the resistances of loop L-1 and L-2. In other words, if the resistance L-1 is twice the resistance of L-2, then the flow of water will be as 2 is to 1 or twice as much as through L-1. So the total flow will be 2 plus 1 or three, and ⅓ will come through L-1 and ⅔ through L-2. From this it can be seen that the opening of any faucet on a circulating system will draw both from the supply main and return main in inverse proportion to the resistances. As the return mains are usually smaller than the supply, it follows that its resistance is correspondingly greater, but some outlets may be located so that the lineal feet of run, back to the heater, is much shorter than through the supply, and this so reduces the proportion of friction between the two lines that the larger part of the water would be drawn from the return.

To prevent such an undersirable result, check valves are used although these are detrimental to the circulation, and unless installed with care may result in stopping the circulation entirely. For this reason common check valves with special aluminum flaps, common check valves installed on a 45-degree angle, or else impulse check valves are used. The common check with the aluminum or thin brass flap is installed on the horizontal, as shown in Fig. 10, while the regular tongue must be set to hang vertical, as shown in Fig. 11; the impulse check has a tongue set on an angle, which makes it hang very nearly vertical, when the valve is set horizontally as shown in Fig. 12.

Having now considered all the essentials of a good circulating system, a typical riser can be developed. Such a riser for an overhead feed should have a gate valve, G, close to the main, a union, U, the drop down reducing in

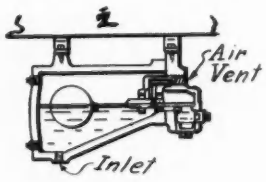


Fig. 8.

Fig. 10.

Fig. 11.

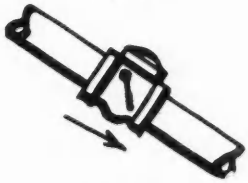

Fig. 12.

size as the various outlets are taken off. At the bottom a similar union, U, a check, and a gate valve, G, should be placed all arranged as shown in the typical riser, Fig. 13.

For the up-feed system the supply riser should be arranged with a gate valve, G, at the main, a union, U, rise up taking off fixture branches and reducing in size with the return drop branched off at the top with a gate valve, G, a union, U, and carried down to the return mains, to which it is connected through a check, union, U, and gate valve, G, all as indicated in Fig. 14.

Circulating lines also throw a greater load on the

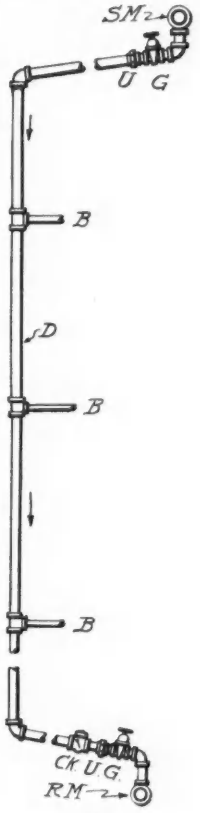


Fig. 13.

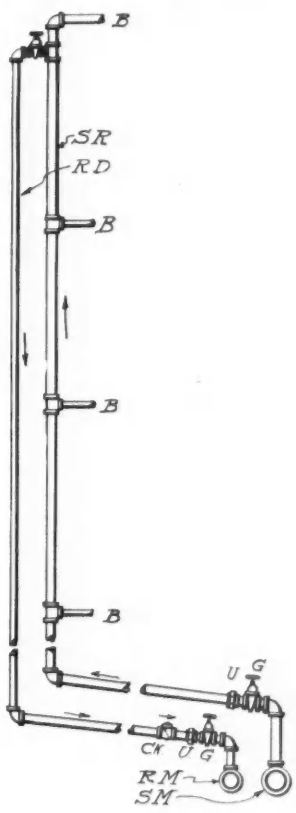


Fig. 14.

heater, as may be readily appreciated from the fact that all heat radiated from the line must be supplied by the heating source, as well as that required for heating the water itself. This additional loss must be calculated and must be added to the heater capacity, the calculation being based on the formula:

$$\text{B. t. u.} = A \times (T - t) \times 1.2$$

when B. t. u. is the heat loss per hr. in B. t. u.

A is the total area of pipe surface in sq. ft. on the hot water and return lines.

T is the average temperature of the water in degrees F.

t is the average temperature of the air surrounding the pipe in degrees F.

1.2 is a constant based on 3 B. t. u. per degree per sq. ft. as pipe loss and 60% average covering efficiency $3 \times (1.00 - .60) = 3 \times .40 = 1.2$ B. t. u. loss through covering per degree.

Thus suppose a hot water system requires 500 gallons per hour heating capacity in the heater and that the hot water and circulation piping has:

200 ft. of 3 -inch pipe
250 ft. of 2 -inch pipe
350 ft. of 1½-inch pipe
400 ft. of 1¼-inch pipe
500 ft. of 1 -inch pipe
800 ft. of ¾-inch pipe

All the ¼-inch pipe is on dead ends, running from the circulating lines to the fixture outlets and is therefore not considered. To obtain the pipe surface, the quantities in lineal feet must be multiplied by the number of square feet of surface per lineal foot of pipe, this factor of course varying with the different sizes of pipe, and this gives the area for each size as follows:

| Size. | Sq. Ft. per Lin. Ft. | Lin. Ft. | Sq. Ft. |
|---|---|---|---|
| 3" pipe | 0.917 | 200 | 182 |
| 2" pipe | 0.620 | 250 | 155 |
| 1½" pipe | 0.50 | 350 | 175 |
| 1¼" pipe | 0.435 | 400 | 174 |
| 1" pipe | 0.344 | 500 | 172 |
| ¾" pipe | 0.275 | 800 | 220 |
| Total square feet of surface = A. | | | 1078 |

Then if the average water temperature is assumed to be 100 degrees, and the average building temperature 70 degrees, the formula becomes

$$\text{B. t. u.} = 1078 \times (100 - 70) \times 1.2.$$

$$\text{B. t. u.} = 1078 \times 30 \times 1.2.$$

$$\text{B. t. u.} = 38{,}800.$$

Then since each gallon of water heated in the heater takes up about 1,000 B. t. u. (8⅓ lbs.×100 degrees rise= 833 B. t. u.) the increase in heater capacity in gallons must be 38,800÷1,000= 38.8 say 40 gallons. Therefore, the heating capacity must be increased to 540 gallons instead of 500, as required simply for service.

Now as to the sizing of the lines; between the heater and the outlets the supply line may be treated exactly the same as a non-circulating system as far as sizing goes. On the returns it has become customary to make them one or two pipe sizes smaller than the supply. This has been shown by experience to be as much of a cut in size as can safely be made, as the motive force tending to move the water in a gravity circulation is so small that amply sized pipes are required to prevent the increase of friction to a point, where it will seriously retard the flow.

## A CONSTRUCTIVE FORM OF CAMOUFLAGE IN ADVERTISING FOR THE PLUMBER.

Camouflage is an expression which is frequently used and which has gained great popularity during the war. Briefly it may be defined as "an imitation of the real thing," or something which conceals the real facts.

The reader may at first wonder what connection there is between camouflage and the plumbing business.

We shall therefore illustrate by citing an instance, in which camouflage serves a constructive rather than a destructive end, as is the case "Over There."

A leading plumbing contractor in the Middle West is using camouflage as an important factor in building bigger business. It is of course not the kind which has been used time and again by a certain species of clothing merchants and other retailers who misrepresent goods in their advertising copy.

The use of camouflage in the advertising methods of this master plumber has been misunderstood by some men in the trade who did not at first realize its ultimate purpose in the selling game.

It is natural that a fellow craftsman from another city should misconstrue the advertisement and be "taken in," as it were, by camouflage contained in the wording of the sign attached to the front of the establishment operated by this plumber. The sign reads:

"Be Your Own Plumber. Come in
and We Will Show You How."

A prospective customer, walking along the street, will notice this sign. He may be contemplating the purchase of a bathtub or a lavatory.

The sign rather amazes him. Here he reasons is an unusual opportunity to circumvent the plumber's bill, which he has been mis-educated to fear and abhor.

Prompted by the prospect of being able to do his own plumbing, he enters the store. He is greeted by the plumbing contractor, who has always believed that advertising is the life of sales.

Invariably this type of prospect in the rural sections will produce a page from a mail order catalog.

"Can you sell me a tub and lavatory like these and at the same price? I'll put 'em in myself, if you'll show me how."

The plumber says: "Why yes, I've got that same identical stuff and at the same identical price. Step this way, please."

He escorts his prospect upstairs to an exhibit of mail order plumbing goods. The prospect agrees that the goods are just like the kind shown in the mail-order house catalog.

The plumber proceeds to explain the complexities of the work and how it should be installed in order to protect the health of the household and assure facility of operation.

"Well, by Heck," says the prospect, "it isn't any snap to install plumbing. I don't think I could ever learn how to do it. It's no use pretending that I can. What's your price for doing it?"

"One dollar and a quarter an hour from the time my men leave the shop."

"Your men must be doctors, aren't they?" exclaims the prospect.

After demonstrating that the labor cost is reasonable, the plumber proceeds to tell his prospect that a mail order plumbing outfit is a cheap proposition and not in keeping with his social standing in the community, and that such a bathroom will not compare favorably with the one (the regular kind), which he installed for the Smiths. Surely he wouldn't want his family to have a bathroom, which wasn't as good as the one in the Smith farmhouse.

Before the prospect, who was worth about $100,000, left the store, he had agreed to buy goods of recognized merit which were on display in the show window. "I installed several hundred dollars' worth of plumbing for him," said the plumber who uses camouflage in his advertising.

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H. H. Pahlman, a captain in Chicago's "Flying Squadron" of Liberty Bond salesmen, paused, in the course of the recent campaign to roll up war funds for the government, before the work room of a sign painting and letter concern on the third floor of a building in the "loop" district of Chicago. He wanted to have his name lettered on his new red, white and blue badge so that he could go out on his selling campaign. After a moment's hesitation, he decided to ignore the "Positively No Admittance" sign, and entered. A big man with a big frown immediately started for him.

"Didn't you see the sign there?" shouted the big man. "Nobody is allowed in here."

"I'm sorry," said Mr. Pahlman and began to explain.

"Oh, that's different," said the big man, whose big frown had given way to a big smile. "Uncle Sam is welcome in our shop any old time."

The big man refused pay for the work he did for Mr. Pahlman—and bought a $50 Liberty Bond.

# QUESTIONS & ANSWERS

## CONNECTING A RADIATOR TO DOMESTIC HOT WATER PIPING.

Editor "Domestic Engineering":—I would like to see a sketch showing how the pipe should be run to the radiator in Fig. 1. I have connected a radiator to a range boiler, where the radiator was above the boiler, but I have never done this, where boiler and radiator were on the same floor.

Will this radiator have to be raised up from the floor so that it will be near the top of the range boiler? Or can it be made to work where it stands?

I have been watching your sketches on "Domestic Hot Water Connections," but have not seen any case exactly like this one.

Indiana. A Subscriber.

Fig. 1 shows, by solid lines, the job as it stands at present, the range boiler on first floor being heated by a

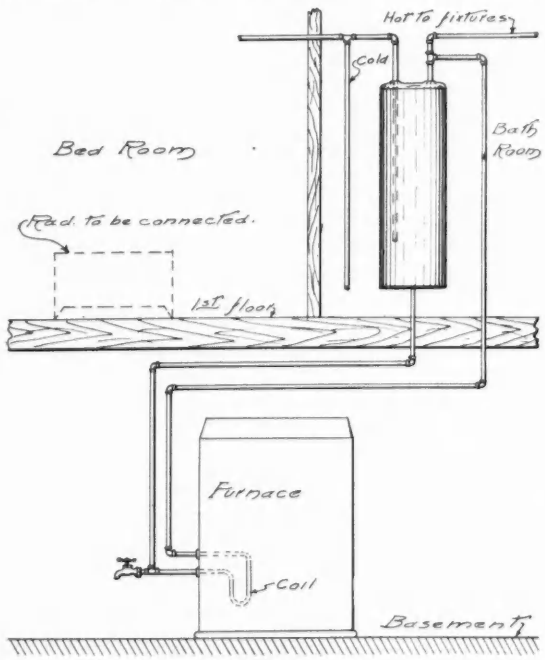


Fig. 1.

coil in furnace in basement. The radiator to be connected up is shown by dotted lines.

There are different ways of connecting up such a radiator. They depend upon the requirements for hot water at the fixtures, as compared with the requirements for heat at the radiator.

If it is intended to favor the plumbing and supply any surplus of hot water to the radiator only, then the radiator may be piped as shown in Fig. 2.

By this arrangement all hot water first goes into range boiler. After range boiler is heated completely, then the surplus hot water may be used to heat the radiator. It is impossible, however, to heat the radiator before boiler is entirely filled with hot water.

When the radiator valve is open, the cold water in pipe

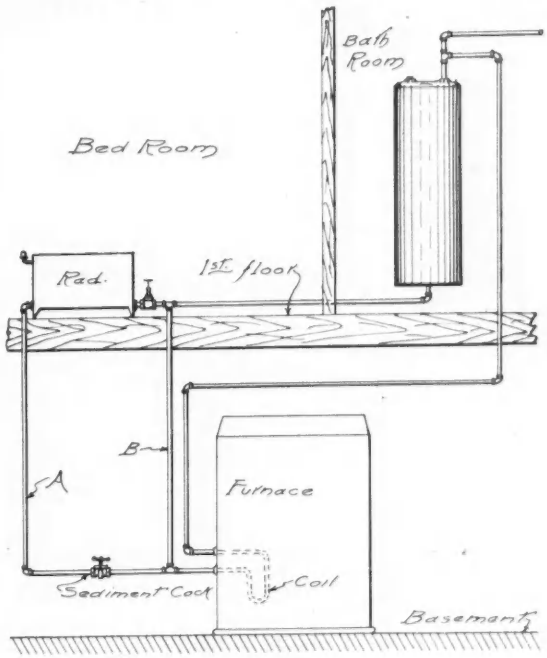


Fig. 2.

A, by its greater density will cause hot water to enter and circulate through the radiator.

When the radiator valve is closed, the entire circulation from bottom of boiler to furnace coil will be down through return pipe, B.

If radiator valve is partly open, then part of the circulation will be through the radiator, and part will be down through pipe B. Thus the radiator valve may be adjusted, as the occupant sees fit, without in any way effecting the heating of the range boiler, which in this instance is supposed to be more important than the radiator.

Should, however, the heating of the radiator be of more importance than heating the range boiler, then the piping may be changed as in Fig. 3.

Here the flow pipe from furnace coil runs straight up to feed radiator. A valve is placed on the flow pipe from radiator to range boiler. A cross connection pipe, A, must be installed to allow circulation to boiler, when radiator valve is closed.

Owing to the way the connection is made, the tendency is for the hot water rising in B, to go straight up and feed the radiator. But if this natural flow is retarded

or stopped by the operation of radiator valve, then the flow will switch itself through the by-pass, A. This will all be done without stopping the circulation between range

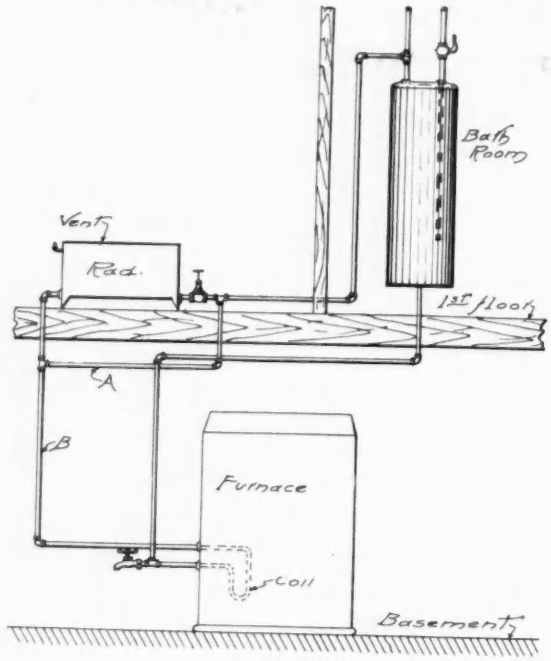


Fig. 3.

boiler and furnace coil. In this instance the radiator is the favored element, and the boiler gets the surplus heat not used at radiator.

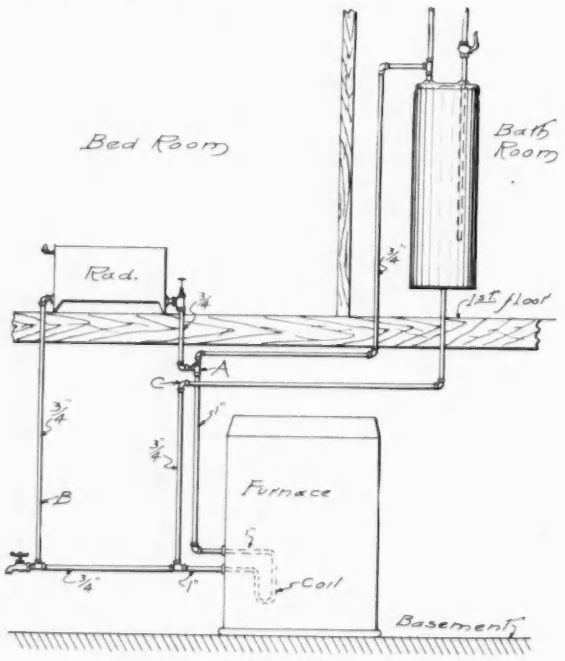


Fig. 4.

It will be observed in Fig. 3 that all air rising from furnace coil will enter radiator. This is a continuous, though slow, accumulation. It may be advisable therefore, in this case, to have an automatic air vent at radiator instead of the ordinary small key vent in common use.

Fig. 4 shows a simple and efficient plan for connecting up the radiator in question. The connection at A favors the boiler as to circulation, but favors the radiator as to preventing air getting in it. This plan should give good results, providing the furnace coil is one inch and the other pipes can be proportioned as per sketch. The one-inch flow pipe from coil then should be able to supply both radiator and boiler at the same time. Each will get some hot water, but most will go to boiler because of its greater height. This plan will not be so satisfactory, if all the pipes are ¾ inch, because then the boiler will rob the radiator. Should you connect up radiator, same as Fig. 4, do not forget to run radiator return pipe, B, separately down to level of coil as shown. This drop is the thing you have to depend upon for circulation through the radiator. Do not connect it in at C, as this may cause a sluggish circulation through radiator.

## PROBABLY A CASE OF SOOT-CLOGGED BOILER.

Editor "Domestic Engineering:"—A house-heating steam boiler worked all winter in a most satisfactory manner until May 1. Illinois coal was used as fuel. Since that day it will not show even one ounce of steam on the gauge. I can have a red hot fire, and the main and return will be hot, but the steam gauge shows no pressure. I have even had the steam gauge off without noticing any pressure. The trap of the steam gauge is clean.

Illinois. "Uneasy."

From the meager facts reported this looks like the result of a dirty or soot-clogged boiler. It is probable that in cleaning the boiler it is not possible to get at certain parts of it and correspondent must know that soot is a great non-conductor. Illinois coal contains from 10 to 15 per cent of moisture, and the effect on the surfaces of the boiler is about the same as from burning green wood, except that the mixture of the volatile gases with the moisture of the coal produces a greasy soot which clings, and in many cases hardens on the heating surfaces.

We advise that correspondent take the boiler down and re-assemble it after carefully cleaning the sections with a steel-wire cleaning brush. At the same time give the chimney flue a careful cleaning. Get on the top of the building and with a bag containing some bricks or pieces of brick in it and fastened to a stout rope, thoroughly scour out the flue.

Lebanon, Pa.—William Evans has opened a plumbing establishment at 331 South Tenth street.

Glouster, O.—The plumbing firm of McCarty Bros. has been dissolved, and the business, which was established twenty-five years ago, will be continued by W. E. McCarty, while F. D. McCarty will retire.

Cleveland, O.—The Ohio Heating & Pipe Bending Co. is the name of the reorganized firm, formerly known as the Schomers Heating & Ventilating Co. The company will retain its offices at 1438 Schofield Building. T. J. Schomers is president of the new company. T. M. Shand vice-president and D. W. Neyhard, secretary-treasurer. Mr. Schomers and Mr. Shand were connected with the old company. Mr. Neyhard was formerly with the National Artificial Silk Co., of Cleveland, and came originally from Misslinsburg, Pa.

# LEGAL QUESTIONNAIRE

*Is General Contractor Liable to Sub-Contractor's Employe for Injuries to Latter While on a Job? — Is a Principal Liable for His Agent's Fraud? — These Questions Are Answered in a Careful Manner**

*By* "The Judge"

**General Contractor Not Usually Liable to Sub-Contractor's Employe for Injuries to Latter Received While Working. There Are Exceptions, However.**

Editor "Domestic Engineering":—Would a general contractor be liable for an injury that might befall a person who is working for a sub-contractor, a plumber, for instance?

N. C. A. W. M.

*Answer:*—As a general proposition, ordinarily a general contractor is not liable for injuries to employes of a sub-contractor, received in the course of the employe's employment. There are some exceptions to this general rule, notably where Workmen's Compensation Acts are in force and where the general contractor furnishes unsafe appliances which cause the injury, especially where it is the duty of the general contractor to furnish them because of his agreement with the sub-contractor. On the other hand, if safe appliances are furnished by the general contractor, which afterwards become defective, there is no liability on the part of the general contractor, unless the latter's contract with the sub-contractor calls for a continued supervision of the appliances furnished.

Another exception to the general rule is this, that a general contractor is liable for injuries to workmen of a sub-contractor, resulting from defects in that part of the work, which was done by the general contractor. Also, where the workman is injured by the combined faults of the general and sub-contractors, the former is liable as well as the latter.

You must always bear in mind that, while it is not usual, it is nevertheless a fact that an independent contractor or sub-contractor may be under such control of the general contractor as to the means and methods, which he employs to do his work, that the general contractor will be responsible. This is based on the proposition that the person, who has the right to say how and when work shall be done, is the person primarily responsible. Usually, however, a general contractor is interested only in the results of his contract with a sub-contractor, and this interest does not make him liable for injuries to sub-contractor's employes due to the means which the sub-contractor employed.

Under ordinary circumstances, a contracting plumber, doing work for a general contractor, is an independent contractor or sub-contractor, and the mere fact that the general contractor has the right of supervision for the purpose of seeing that the specific work is done in compliance with the contract, will not make the general contractor liable for injuries to the employes of the sub-contractor. In other words, the retention of the right to supervise results, as distinguished from the right to supervise as to the means by which the intermediate results should be obtained, does not make the general contractor liable.

For instance, a general contractor's reservation of the right to direct changes in the time and manner of doing the work, the right to direct as to the quatity of work to be done, or the right to make any deviation from the contract is not such a right to control the manner or mode of doing the work as to make the general contractor liable.

Although the rule is stated in the decisions in many different ways, and although there is considerable conflict of authority as to whether a particular state of facts brings the case within the general rule, relieving the general contractor from liability, or causes it to fall within one of the exceptions, which render the general contractor liable, the general rule deducible from the decisions is that where the relation of an independent contractor (a real sub-contractor) exists and the general contractor has used due diligence in selecting a sub-contractor, and the work to be done is not in and of itself a nuisance, nor will necessarily result in a nuisance, if proper precautionary measures are used, and an injury results to a third person or to an employe of the sub-contractor, not from the fact that the work is done, but from the wrongful or negligent manner of doing it by the sub-contractor, the general contractor is not liable. Put in shorter form and very generally, a general contractor is not liable for the negligent acts of a sub-contractor or his servants. This rule, with its exceptions, is reiterated by statutes in some of the states.

One of the exceptions to the above rule is where the work to be done by the general contractor is inherently dangerous, unless proper precautions are taken, liability cannot be escaped by the employment of a sub-contractor to do the work. Stated in another way, where injuries to third persons or employes of a sub-contractor must be expected to arise unless means are adopted by which such consequences may be prevented, the general contractor is bound to see to the doing of that, which is necessary to prevent the injury. The injury need not be a necessary result of the work, but the work must be such as will probably, and not which merely may, cause injury, if proper precautions are not taken.

Another exception to the general rule is that a person causing something to be done, the doing of which casts upon him a duty, cannot escape from the responsibility attaching on him of seeing that duty performed by dele-

***Every Effort is made to the End that these Answers may be authoritative. However, we cannot assume any Responsibility because of the very Nature of the Service, which is rendered without a personal Interview.—Editor.**

gating it to an independent or sub-contractor. For instance, if the duty imposed upon a general contractor is one imposed by a statute or muncipal ordinance, the general contractor cannot escape liability by delegating the work to an independent contractor.

Corporations have been held liable for the wrongful act of an independent or sub-contractor, while the latter is exercising some chartered power or privilege of the corporation, but liability in such a case is limited to wrongs done in the performance of acts, which could not have been performed except for the existence of the charter of the company. Illinois courts seem to have carried this rule further than any other state.

A general contractor is liable to third persons not in the employ of sub-contractor, for the negligent or wrongful acts of a sub-contractor, where he knew the sub-contractor's bad character for negligence, when he employed him or where he failed to exercise due and reasonable care to select a competent and skilful sub-contractor. But knowledge of the incompetence of the sub-contractor does not make the general contractor liable to an employe of the sub-contractor for injuries resulting from the negligence of the sub-contractor.

It must be remembered that the liability of a general contractor to the employes of a sub-contractor is not as extensive as his liability to strangers or third persons. Where the real cause of the injury is the negligence of an employe of the general contractor, working together with the employes of the sub-contractor, the general contractor is liable. Of course, negligence of the general contractor which results in an injury to an employe of a sub-contractor, may make the general contractor liable.

Speaking very generally, for probably the matter was not in your mind when you asked your question, under some Workmen's Compensation Acts the liability of the employer or insurer extends to the employes of a sub-contractor. This matter is usually covered by each particular statute or the decisions under it defining what is meant by an employe.

I have endeavored to mention some of the general rules on the subject which you raised, most of which are exceptions to the general rule that a general contractor is not liable to employes of his sub-contractor. The subject is such a broad one that I cannot very well go into more detail within the limits of this column. If you have a particular case in mind and will send in the facts in as much detail as possible, I shall be pleased to discuss your question. I have treated the matter broadly, trying to cover the general rules upon which the decisions of most of the states are founded, and have not confined myself to the particular decisions in your own state. As I have said, if you want light on any particular set of facts as to the particular rule of law in force in your own state, I shall be pleased to give it to you, as far as I am able. Generally speaking the rules, which I have given, apply to cases arising in your state, but the particular facts in a given case might make some slight variations; this is true in all states, however.

## PRINCIPAL'S LIABILITY FOR THE FRAUD OF HIS AGENT.

Editor "Domestic Engineering":—The agent of the owner of a patented valve recently sold me an option to purchase the patent right within three months at a certain figure. One of the principal reasons why I took the option was the fact that a pamphlet was given me in which a long list of names appeared, showing those who were using the patented valve. The agent, in addition, stated in the presence of my bookkeeper that nobody, who had ever used the valves, had ever stopped using them.

Upon investigation, I found that very few, if any, of the persons or firms listed, were using the valves, and that some of them had discarded their use because they were not satisfactory. Can I recover the amount I paid for the option from the owner of the valve?

Dover.

*Answer.*—An agent's misrepresentation of fact, in a business deal on behalf of a principal, will bind his principal in many different sorts of cases, and I believe that your case is one which will permit you to recover your option money from the owner of the patent. As you do not state, I shall take it for granted, that the agent had authority to sell you the option and that he acted within the terms or scope of his authority, and shall discuss the liability of a principal for the fraud of the agent.

A principal's liability for the fraud of his agent is usually the same as the liability of a master for the tort of his servant, but there are some qualifications to this general rule. An agent, as distinguished from what is termed a servant, is employed to bring his principal into legal relations with a third person. A servant, such as an employe in your shop, may be involved in an accident case, which creates a liability on your part in damages for injuries. An agent, generally, is someone who is employed to bring a third person to the principal for some contractural purpose.

Where the relation is that of principal and agent, in this narrower sense, and your case comes within this rule and in the course of the employment and in furtherance of it, the agent commits a fraud in performing or attempting to perform some act which is within his authority and incident to his authority to create a new relation, the principal is liable.

Fraud, as the word is used, is a false representation of a material fact, made with a knowledge of its falsity, or in reckless disregard of whether it is true or false, with the intention that it shall be acted upon by the complaining party, and actually inducing him to act upon it to his injury. It is not essential, however, that a representation be made directly to the injured party, in order to give ground for an action for deceit; it is sufficient if it has been made as an inducement to act and the injured party suffers damage because he acted in consequence of it.

The fraudulent intention of the principal need not be proved; in fact it is immaterial in most cases that the principal knew of the fraud or not. But the law says that having put his agent in a position to act he must be held responsible for what his agent does in carrying out his wishes. All of these considerations must be qualified by the statement that a principal is not bound, if the third party knew the scope of the agent's authority, and the agent in fact was not authorized to make the fraudulent statements which he did make. The fraud, to make the principal liable, must also have been made for the principal's benefit, with certain qualifications which I shall speak of later.

There is a difference of opinion on the question whether a principal is liable for the representation complained of, made as an inducement to enter a contract, but not the kind of a representation, which is usually made in such cases; as where an agent makes a representation, which would not be binding as a warranty because such a warranty would be unusual. Generally, in this country, it is sufficient that the agent was acting within the scope of his employment and that the representation was one

which induced the other party to act. Even in cases where it has been found that the agent was not acting with authority, the principal is not allowed to keep the fruits of his agent's fraud and escape liability at the same time.

The courts of this country are divided in their opinion as to the liability of a principal where he has not benefited from the fraud of his agent. One line of cases holds that, if the fraud has not resulted in benefit to the principal, he cannot he held liable. Another line of cases rules that having placed his agent in apparent authority, he must answer for any damage done to innocent third parties, even though he has not reaped any advantage himself. In one case a plaintiff, who had been deceived by an agent, was permitted to say, in effect, to the principal:

"You intrusted your agent with means to effectually deceive me by doing an act, which in all respects compared with the authority you gave him, and which act represented that an extrinsic fact known to your agent or yourself, but unknown to me, existed, and you have thus enabled your agent, by falsehood, to deceive me, and must bear the consequences. The very power you gave, since it could not be exercised without a representation, has led me into this position, and therefore you are estopped [prevented] in justice to deny his authority in this case."

The principal difficulty which remains, lies in charging an innocent principal, where the agent, without authority, *but innocently*, represents a fact to be true which the principal knows to be false. That is, where the principal knows of a fact, which he has perhaps forgotten to tell his agent, and the agent innocently represents that the facts are different from their true situation. As has been stated by one textbook writer:

"If the principal, knowing the contrary of the representation to be true, does not authorize it, but the agent, thinking it to be true, makes it, the question is presented whether the principal is liable. That he is liable if he fraudulently keeps back the knowledge from the agent is admitted; but, if he holds back the knowledge inadvertently, the question is not free from doubt."

One English court has said in this matter: "It is impossible to sustain a charge of fraud when neither agent nor principal has committed any—the principal, because, though he knew the fact, he was not cognizant of the misrepresentation made; and the agent, because, though he made a misrepresentation, yet he did not know it to be one at the time he made it, but gave his answer bona fide."

Some courts seem to hold that the principal should be considered liable in such a case. If he is to be held, it must be on the ground that having withheld very material knowledge from his agent, he is to be considered as having acted in such reckless disregard of consequences to third parties that his act may be justly considered a fraud, in much the same way that a false statement, made in reckless disregard of whether it be true or false, is deemed to have been made fraudulently.

In conclusion, after discussion of the various situations, where the principal knows of the falsity of the representations, I quote from an authority: "If he, the principal, believes the fact to be as represented, and the agent makes the representation in that belief, whether pursuant to express authority or in a transaction within his apparent authority, the principal is not liable; but in either case, if the agent makes the representation knowing it to be false, or recklessly, the principal is liable. In many cases, of course, the principal is without knowledge of the facts represented, and if in such case the agent makes the representation knowing it to be false, or recklessly, the result must be the same, and the principal is liable, although he is not liable if the agent reasonably believes it to be true, unless the principal, without knowing whether it were true or false, authorized it to be made. Thus, the principal is liable in all cases, unless it be the English case cited, except when both the principal and the agent believe the agent's representations to be true."

As you state that a pamphlet was given you showing a list of names of those using the valve, your case can hardly come within the exception to the rule that the principal is not liable, for even if the owner of the patented valve did not know that the list contained names of people, who were not using the valve, it would undoubtedly be held by the court that he should have known and that if he put the list out, without knowing the true facts, he acted in such reckless disregard of your rights, he had committed what in effect amounts to a fraud upon you. I should say that, if the owner of the patent is responsible financially and you are willing to press the matter to the conclusion of litigation, you have a very good case. It is especially strong because you apparently have printed evidence of the misrepresentations made.

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Farrell, Pa.—Peter Koon will install a modern heating system in the Berger building on Broadway.

Grand Rapids, Mich.—The Pulte Plumbing & Heating Co. has been awarded the contract for installing modern plumbing in the new Oceana Savings Bank building at Hart, Mich.

Steubenville, O.—J. H. Frazier has secured the contract for the installation of modern plumbing in the $230,000 public school which is to be erected at Mingo, O., during the next 300 days.

Columbus, O.—The Samuel A. Esswein Co. has secured the contract for the installation of plumbing in the government storage house, now under construction in East Columbus. This contract is a very large one.

## Obituary

### Charles E. Parmelee.

Chas. H. Parmelee, formerly engaged in the plumbing and heating business in St. Paul, Minn., died at his home in Seattle, Wash., on Friday, May 31st, in his 64th year. His wife and a daughter survive him.

### C. J. Maurud.

C. J. Maurud, one of the younger, and at the same time older plumbing contractors of Minneapolis, Minn., died last week in St. Louis, Mo., while en route to Hot Springs, Ark., in an effort to regain his health. Mr. Maurud was one of the most popular men in the plumbing trade in Minneapolis. He was a member of the Master Plumbers' Association, the I. O. O. F., and the Masonic fraternity. A wide circle of friends and acquaintances mourn his early death. A cousin survives him.

### J. A. Wilson.

J. A. Wilson, of the firm of Wilson & Meece, of Somerset, Ky., last week fell from the roof of the First Baptist Church, at that place and was killed instantly. He and Mr. Meece were putting the tin roof on the church, when Mr. Wilson in trying to change the position of the stage, stepped on a block nailed to the roof. The block gave way and he slipped over the edge of the roof to the concrete walk below. He leaves a wife and several children.

# RAYMORE *and* COMPANY PLUMBING *and* HEATING SUPPLIES

*How a New York Plumbing Contractor Made a Great Success in Specializing on Remodeling Work*

*By* Daniel Louis Hanson, Author of "Moses Irons' Stories"

IT was in a small plumbing office and showroom that Mr. Raymore sat that afternoon, from the windows of which could be seen a goodly section of one of the Manhattan suburbs, which a new extension of the "Subway" had opened up some three years earlier, a suburb in which some architect with a blended taste for the Rococo and the Gothic had been turned loose to do his worst. He had fulfilled his commission to his heart's content, Mr. Raymore's carefully groomed taste in matters of architecture ached as he looked out on the scene: "How differently they would have done all this in ——," but the Boss put a taboo on any further thoughts in that direction; Nathaniel Raymore had become pro-American to the very tips of his grey spats.

"How did you come to locate here?" he asked the master plumber, a grey-haired man just swinging into the fifty decade.

Moreson laughed: "Your unconscious emphasis on that last word amuses me. Confidentially the 'here' gets on my nerves at times; were it not for the fine, simple-hearted folks living 'here' I would flee to the uttermost parts of the earth to get away from all this atrocity." And he pointed to the scene beyond the window.

"Was the architect allowed to escape?" asked Mr. Raymore, with a pull at his portiere whiskers.

"Alas! Yes, worse than that, they didn't even take away his license from him. But you asked me how I came to locate here; first of all, because the other locations I looked into were not as desirable; and secondly, because I felt that my old business over in Chelsea had come to its profitable end. You know what Chelsea is, a neighborhood of New York City that has had a past and probably has a future, but just now it is in that hopeless state of neutrality, that sort of business moratorium of betwixt and between which spells 'starvation' for men in our line. I could have staid of course, and have eked out a living—many would have done so. But, Mr. Raymore, I don't intend to become a fossil as long as I know what the preliminary symptoms are and how to resist them."

At this the Boss sagely indicated his approval: "That's an excellent point you make, Mr. Moreson; many of the failures in the plumbing and heating business have been of men who didn't understand that the time had come to make the big shift nor how to make it. Up 'till then they had been successes in our field, but they ended as failures. The road of business isn't along one straight course, a man has to have his finger on the throttle, his hands on the steering wheel and his eyes straight ahead every minute of the drive."

"Every second of the drive," Mr. Moreson amended. "Maybe I didn't have, but fortunately I was jolted awake before being ditched. Well, I looked over that field and this, from the 'abandoned farm,' if I may so call it, of the plumbing and heating industry, to the fully stocked and well worked establishment that the owner was willing to part with at a fancy figure 'because of ill health,' then I heard of 'Architecture-opolis!'"

"Mr. Raymore actually laughed at that, "Very clever, 'Architecture-opolis,' very clever!"

"That was three years ago, and the place was even more startling then than it is now, for at that time the original paint covered, not decorated, the various structures. How my eyes ached that first day of my visit! I found that the houses were all jerry-built, a construction company having blossomed as a side-flower to a realty holding company. Five hundred had been erected in a nine-month period—ninety per cent of them already owned by people who had paid a thousand down and were obligated to pay off the balance of the second mortgage—another two thousand, in three years. The first mortgage of three thousand could be made permanent. You know the usual terms."

Mr. Raymore did.

"I went through some of the houses that were just being finished, and groaned in spirit at the plumbing and heating I there saw. The plumbing, as far as its roughing-in went, was according to the municipal ordinances, and the closets were of the types permitted, but, outside of that, the closets too were of a third quality at that—the builders had done their worst. I knew that not only would the repair work field be big, but, what interested me more, there was a chance to put in modern fixtures, for I had noticed in the past that the new owner of a house, which he himself hasn't built, is fairly burning up with the desire to make changes."

"Dr. Crothers speaks of that, in a recent Atlantic article, as the 'desire of being something else than what we are in the sodden present,'" said Mr. Raymore.

"I thought I was the only discoverer of that feeling," replied Moreson in a tone of disappointment, "but at any

rate I knew of it and planned to cash in on it. What is a knowledge of human nature worth, if it isn't worth study by a master plumber and—his applying it to his business? Pride in having their newly-built houses, but far from modern, as regards plumbing and heating fixtures, up-to-date in those essentials, and the dissatisfaction with what had the cut-and-dried appearance about it—those two, on them should my new fortunes be built up."

"You spoke of the heating. Was that defective, too?" asked the Boss.

"Furnaces—good enough furnaces, but just pitched into the basements and with about as much chance of heating the draughty houses as the salamanders had in the days of the plaster-drying. It was either a case of steam or freeze-to-death. I knew well-salaried people such as these owners would decline to freeze to death."

"That's what marks the difference between the American and the European. The latter would have accepted things as he found them, have worn heavier underwear and have handed down at his death to his children the original plumbing and heating fixtures intact," suggested Nathaniel Raymore.

"Mr. Raymore, I always thank God that I am an American; I did that even before last Palm Monday, I have doubled my gratitude since," replied Mr. Moreson. "However to cut the story short and to get to the moral of it, I said good-by to Chelsea, being particular not to cast any glances back of me as I hurried eastwards; out here I wanted a clean slate. The past has a certain value to us in the experiences it has given, but even that isn't a hundred cents on the dollar, for the discount is heavy when it comes to applying the lessons to present day conditions. Business isn't the same this year as last, and that period was a change on what had gone before. The older I get the less I fall back on precedents; I scan the future instead and that has proven the more profitable to me."

"I wish that my salesmanager, Phil Harton, were here to hear that!" exclaimed Mr. Raymore.

"I wish he were. I think I got the idea from him. I came over to this new location without a cent's worth of stock and without taking a single employee with me. I saw that they were taken care of, of course, and not put on the street. But I wanted a clean slate. Except as to my own personality I wanted nothing of the old. That accounts for my office furnishings being new, what there are of them. I got a small place, too. It doesn't pay to look too glaringly prosperous in a community that was still at sixes and sevens. That sort of thing does for Fifth Avenue, Manhattan. These people were commencing from the ground up, and I went into the game with them, asking no favors in the way of equipment."

"A long-sighted policy and a sure winner," commented the Boss, daring himself into another look out at the rows of jumbled architecture.

"Then I fixed up in that show window, a modern bath room; not one of these de luxe affairs that not one house-owner in a thousand can afford to have. I took a good syphon closet with lowdown porcelain tank, a fair-sized wall lavatory with concealed hangers, and a base tub. You

**"There was a chance to put in modern fixtures, for I had noticed in the past that the new owner of a house, which he himself hasn't built, is fairly burning up with the desire to make changes."**

will remember that this was three years ago, and I hung a price tag: 'Seventy-five Dollars will pay for these fixtures. The work of installation will not be expensive, as the roughing measurements are the same as those of the fixtures now in your house,' and waited for nibbles. The heating I, as yet, did nothing about, as it was only August and my prospective customers would have to feel the tingle of cold weather in their toes before they could believe those 'nice looking' furnaces were inadequate."

"But didn't you make the price on the fixtures rather low?" asked Mr. Raymore.

"I made it low, but not too low. I wasn't forgetting any of my overhead at that. Remember this was three years ago. But I didn't expect to sell many suites such as were shown in my window. These people were anxious to get away from sameness—not to plunge into it the second time. I expected to sell something different and so I did. Of the show window suite I sold only two sets. All together that first season—five months all told—I sold forty-two complete bathroom sets, to take the place of the old."

"Did you take the old in trade?" asked the Boss.

"I didn't want too, for the stuff wasn't of any value to me for use in another place, but finally I found a market for it. Remember it was practically new and was sanitary enough. So I allowed so much, just what I got for it, less a ten per cent handling charge, and sold the new at my own price plus installation expense. Of course, I used other mediums to reach the people besides that show window exhibit. I advertised in a sheet that reaches the suburb from Long Island City, one of these neighborhood publications, which are a new feature of New York life, and a mighty good one too. Then I used Uncle Sam continually, but not too persistently. Here is my own publication, 'Moreson's Domestic Science Adviser,' in which I incorporate 'Sanitary Hints for the Bathroom,' 'Why the Heating Plant Doesn't Work' and departments like that, which allow any amount of constructive advertising."

"May I see that?" requested Mr. Raymore, reaching out for the sheet the master plumber held in his hand.

It was a four-page affair of standard magazine size, the front cover as well as the back being used for text. There were two illustrations in that particular issue.

"Not a bad idea at all—a very good one—a mighty effective medium," the Boss was getting enthusiastic by steps, as was his wont. "This idea you didn't bring from New York City with you?"

"No; it might be applicable to a city clientele, but I can't see just how. It is one of the new plans for getting business that I have thought up in mine old age," and Moreson ran his fingers through his sparse gray hair, "all together I have installed four hundred and thirty bathrooms—that is, placed new fixtures on the roughing fittings already in place, besides doing any amount of tinkering on work that hasn't been changed throughout."

"And heating?" suggested Paymore.

"Well, that's been a sort of a goldmine; I couldn't utilize anything of the furnace plants, but I succeeded in getting a market for the heater part, which was A1, the installation was the bum in the heating. All together I have installed a hundred and one heating plants, seventy per cent steam, the balance hot water, except ten vapor systems."

"And, of course, you did most of that through advertising."

"Well, I simply reached them with the suggestive word at the psychological moment, which was at about ten below zero weather. Jack Frost did good service for me in those nipping days."

Mr. Raymore rose to his feet, his car, that he had instructed to come back for him at a certain hour, now pulled up in front of the little office. "You made the big shift, not by going into hibernation, but by jumping into still bigger things," said the Boss. "Can I use the information you have given me today, Mr. Moreson?"

"On the condition that you neither use my name nor give any clew as to my whereabouts. I don't intend to fence off this section for myself, but I have made my town a better one in sanitary matters, a warmer one in temperature during the seasons when that is better. And I want to reap a little of the rewards. Let other master plumbers go afield and find openings, the land is full of them."

June 25 and 28, 1918.—The summer meeting of the American Society of Heating and Ventilating Engineers, at Buffalo, N. Y.

July 1, 2 and 3, 1918.—The annual convention of the California State Association of Master Plumbers, at Pacific Grove, Cal.—Sessions in Civic Club House.

July 8 and 9, 1918.—The annual meeting of the Executive Committee and the Chairmen of the Standing Committees of the National District Heating Association at the Breakers Hotel, Cedar Point, Ohio.

September 3, 4 and 5, 1918.—The annual meeting of the American Society of Sanitary Engineering, at Chicago, with headquarters at the Congress Hotel.

October 14 to 17, 1918.—The annual convention of the American Public Health Association, at Chicago.

## IN FLANDERS FIELDS.

In Flanders fields the poppies grow
Between the crosses, row on row,
That mark our place, and in the sky
The larks, still bravely singing, fly,
Scarce heard amid the guns below.

We are the dead; short days ago
We lived, felt dawn, saw sunset glow,
Loved and were loved; and now we lie
In Flanders fields.

Take up our quarrel with the foe!
To you from failing hands we throw
The torch; be yours to hold it high!
If ye break faith with us who die
We shall not sleep, though poppies grow
In Flanders fields.

—Lieut. Col. John McCrae, "In the Day of Battle."—Reprinted by courtesy of G. P. Putnam's Sons, owners of United States copyright.

You can at least be in the second line of defense—be a war saver.

Can you refuse to loan your savings when other men give their lives? Buy War Savings Stamps.

# Among the Wholesalers and Manufacturers

## THE CENTRAL SUPPLY ASSOCIATION'S SUMMER MEETING.

The Central Supply Association is opening its summer meeting, with a good attendance, just as we go to press with this issue, the meeting being held at the Congress Hotel in Chicago. A complete report will appear in next week's issue of "Domestic Engineering."

## INCREASES ITS CAPITAL STOCK.

The J. J. Reilley Manufacturing Co., of Louisville, Ky., recently filed amended articles of incorporation, increasing its capital from $50,000 to $150,000.

## THE OFFICIAL PROGRAM FOR THE SEMI-ANNUAL MEETING OF A. S. H. & V. E.

The official program for the semi-annual meeting of the American Society of Heating and Ventilating Engineers, which is to be held in Buffalo, N. Y., with headquarters at the Hotel Statler, has just been issued by Secretary C. W. Obert, as follows:

**Tuesday, June 25, 1918.**

1:00 p. m. Registration.

**First Session. Wednesday, June 26, 10:00 a. m.**

Welcome Address.—Response by President.

Annual Reports of Chapters: Illinois, Kansas, Minnesota, Michigan, New York, Ohio, Eastern Pennsylvania.

Report of Committee on Research Bureau.

Report of Committee to Confer with Bureau of Mines.

Report of Publication Committee.

Paper: Electrical Method of Testing Radiator, by J. E. Emswiler.

Topical Discussion: Velocity of Steam Flow in Mains to Prevent Condensation Draining Back.

**Second Session. Wednesday, June 26, 2:00 p. m.**

Paper: The Heat Transmission of Standard Building Materials, by A. C. Willard.

Paper: Ventilation of Mines, by Thos. Chester.

Topical Discussion: The Use of Independent Air Heater Units in Factories, Warehouses and Large Interior Spaces.

Open Window Ventilation of Schools.

**Third Session. Thursday, June 27, 9:30 a. m.**

Address: By H. C. Gore, Chemist, Department of Agriculture.

Paper: How Food Will Win The War, by W. A. Perry.

Paper: Food Dryers and the Use of School Houses for Drying, by W. L. Fleisher.

Topical Discussion: Community Dryers.

**Fourth Session. Thursday, June 27, 3:00 p. m.**

Professional Session at Buffalo Canoe Club, Abino Bay.

Paper: Reasons for Failures of Heating Systems, by J. D. Hoffman.

Paper: A Campaign for Fuel Economy in House Heating, by C. W. Baker.

Paper: Economy in Heating, by Konrad Meier.

Paper: Reforms in the Design of Hot Air Heating Plants, by C. W. Baker.

**Fifth Session. Friday, June 28, 10:00 a. m.**

Fuel Conservation Session.—Paper: Spontaneous Combustion, by Dr. M. W. Franklin.

Paper: Heating the Base Hospital at Camp Dodge, by P. M. O'Connell.

Paper: Duty of the Employer in the Reconstruction of the Crippled Soldier, by D. C. McMurtrie.

**Entertainment Program.**

Wednesday, June 26, Afternoon: Matinee for the Ladies.

Evening: Reception and Dinner Dance in Hotel Statler Ball Room—Members and Guests.

Thursday, June 27, Afternoon and Evening: Lake Ride and Dinner at Buffalo Canoe Club—Members and Guests.

Friday, June 28, Morning: Trip to Niagara Falls. Luncheon and Gorge Route—for the Ladies.

The session on Thursday afternoon, June 27th, which will be held at the Buffalo Canoe Club, at Abino Bay, on the Canadian side of Niagara River, affording the members and guests a delightful boat ride across Lake Erie and into Niagara River. Inasmuch, however, as this is across the Canadian border, any of the members or guests who are within the draft age, will encounter a restriction of the Selective Service Regulations, and it will be necessary for them to obtain from their local exemption board a special permit known as Form No. 1027, which must be shown in crossing the border. We are advised that this formality is insisted upon, and that if any members under 30 years of age attend the meeting, it will result in an unfortunate embarrassment, if such a permit cannot be shown.

## THE SUMMER MEETING OF THE EASTERN SUPPLY ASSOCIATION.

A record attendance was on hand for the summer meeting of the Eastern Supply Association, held at the Hotel Astor, New York City, on Wednesday, June 12th; a meeting that will long be remembered as one of great accomplishment and enthusiasm.

The Trade Extension program and the Water Supply Farm Plumbing and Heating program were discussed by members of committees in charge of the work, who won the hearty indorsement and pledge of support from every one present.

New members elected, numbering seventeen, and one branch membership, were announced, as follows:

Borden Co., Warren, O.
Bre Mfg. Co., Boston, Mass.
Abram Cox Stove Co., Philadelphia, Pa.
R. J. Donovan Co., New York City.
C. V. Driggs, Inc., New York City.
Empire Brass Mfg. Co., Cleveland, O.
Goulds Mfg. Co., Seneca Falls, N. Y.
Jefferson Union Co., Lexington, Mass.
J. K. Larkin & Co., New York City.
McLoughlin Supply Co., New York City.

Murray & Sorenson, New York City.
National Foundry Co., Brooklyn, N. Y.
National Radiator Co., Johnstown, Pa.
Ohio Brass Co., Mansfield, O.
Spencer Heater Co., Scranton, Pa.
Toledo Pipe Threading Machine Co., Toledo, O.
Union Radiator Co., Johnstown, Pa.

Branch House Membership: Haines, Jones & Cadbury Co., Richmond, Va., and Savannah, Ga.

A feature of the morning session was a brilliant, heart-stirring address by Gypsy Smith, the world-famous evangelist, on "British Y. M. C. A. Work at the Firing Line."

Another interesting address was made by J. Harvey Borton, president of the Haines, Jones & Cadbury Co., of Philadelphia. Mr. Borton spoke on "Our Obligation to the Other Fellow."

At the afternoon session L. O. Koven reported that in response to many calls, particularly from the West, for higher tapping in range boiler shells, range boiler manufacturers in the interests of conservation and to reduce stocks would after July 1st supply boilers with uniform spud tapping, i. e., six inches from top of shell to center of tapping.

Mr. Koven also reported the adoption, at the last meeting of the National Committee, of a plan to make no contracts for a period exceeding sixty days.

Secretary Geo. D. McIlvaine, of the National Pipe & Supplies Association, spoke of the serious situation confronting steel users. The situation is forcibly brought to attention in a communication from the Priorities Committee of the War Industries Board, at whose request committees representing various branches of industry, using steel products, were to meet in Washington the next day to offer to the Government a plan for judicial and equitable allotment of steel.

Mr. McIlvaine said that there is not sufficient steel produced in the country to meet the war requirements of the United States and her allies, and it is necessary to curtail the use of such material so that none reaches any but producers of absolutely essential war products. A proposition was advanced, he said, to eliminate the distributor and deliver all pipe from the mills. He said, while he had no fear that this would come about, the situation means, at least, a condition of licensing and limitation for the distributor.

Mr. Lissberger, of the executive committee, formed at the orders of the tin chiefs of the War Industries Board, called attention to the tin situation. He said that of the 120,000 tons produced during the year, this country got 60 per cent. Requirements for war are increasing, and no tin should be used that is not a war necessity. The solder manufacturers, he said, have been requested to make solder containing no more than 37½ per cent of tin and that no bar tin whatever be used.

Vice-President Joseph F. Evans took the gavel during the discussion of the Trade Extension and Water Supply programs.

A. M. Maddock opened the former by stating that the manufacturers of the country have not had the support of the jobbers.

F. W. Hubbard spoke for the jobbers, assuring Mr. Maddock that in one section of the country he will have the support of the jobber. The New England jobbers, he said, are co-operating closely with the plumbers and are about to canvass the entire state of Massachusetts during the next week in an effort to produce results in the Trade Extension movement.

James S. Cassedy, of Cambridge, Mass., former president of the National Association of Master Plumbers, spoke for the plumber. Heretofore, he said, all had been rather self-satisfied and never sought the viewpoint of the other, but a new era has changed this. He reviewed the aims and policies of the National Association of Master Plumbers, from its organization. The mail order competition, he said, is a big item, and the association as a whole is interested in securing 100 per cent of the plumbing business of the country for the plumber. The plumbers realize that the way to get this is through education and advertising, the co-operation of the manufacturers and jobbers as represented in this new movement is binding the trade in a sincere get-together spirit that is bound to succeed.

C. B. Nash, of the Standard Sanitary Mfg. Co., spoke for the publicity bureau of the committee. He said the advertising or publicity committee of the general committee is determined to set a pace that would commit the rest of the bureau to positive action.

The trade papers, through their generosity in donating advertising space, and the several manufacturers, through their advertising service, have made it possible to launch the movement. Had it not, he said, been for these papers and manufacturers none would have known of the Trade Extension movement. A good start has been made, he continued, but finances are necessary to carry the work forward.

James F. Conran, of the Standard Sanitary Mfg. Co., chairman of the Trade Extension Committee, closed the discussion of the subject. He said the Trade Extension Committee was the result of Mr. Maddock's work. He called on the jobbers to lend their support in action and finances. It is the jobbers' duty, he said, to help the plumber sell the job. He suggested that what the jobbers in New England are doing could be done in other sections.

The Water Supply Farm Plumbing and Heating program was then taken up. This was opened by James F. Conran, who urged the eastern jobbers to get after the farm business, as they are doing it in the West.

T. E. O'Brien, of the Leader Iron Works, and H. A. Stamper, of the Vaile-Kimes Co., followed. They brought out the point that the plumber and jobber have let the water supply business slip into other channels and urged a closer cultivation of the farmer in an effort to develop this big and highly profitable business.

The meeting took action, approving the work of both these committees and extended a vote of thanks to the members. Another vote of thanks was given the trade papers for their work in behalf of the movements.

James H. Baker, of the War Finance Committee, having just returned from the battle front, brought a message from the boys in action and appealed to his hearers to make every sacrifice.

Under the heading of "Market Conditions" P. M. Beecher, of the Richmond Radiator Co., said the manufacturers of enameled ware are confronting a demand of a 25 per cent increase from the enamelers, a freight increase of 60 per cent, an increase in salesmen's expenses and inefficiency of labor. In addition the Government has notified every user of pig iron that it may become necessary to seize every pound of iron in their yards. With all this and the shipping embargo, he said, it is a good thing for the jobber, who has a few pieces of ware on hand to get as good a price as possible.

W. A. Cosgrove, of the American Radiator Co., said the conditions in boiler and radiator manufacture parallels that outlined by Mr. Beecher.

E. S. Aitkin, of the Trenton Potteries Co., said the potteries are placed on a 50 per cent fuel basis, and last week the fuel administrator ruled that no more coal be delivered to sanitary potters.

H. D. Cleveland, president of the Central Foundry Co.,

said the increase in freight on pig iron represents 200 per cent in some cases, and no reduction in the market is imminent. Holders of present stocks, he continued, should realize the market, because it will take a long time to replace at any price.

Frank Sutcliffe, of John Wood Mfg. Co., said the boiler manufacturers are now compelled to devote more than 85 per cent of production to Government business.

R. H. Smith, of E. Stebbins Mfg. Co., warned the jobbers to be careful of prices, as replacement costs are going to be high.

John F. Wolff, past president of the Central Supply Association, received an ovation, when he was called upon by President Adams. He said the meeting represented to him the greatest entertainment in a business way that he remembers.

Secretary Frank S. Hanley announced that a letter of sympathy had been sent to the family of Charles Henry Downs, of E. Stebbins Mfg. Co., of Springfield, Mass., upon learning of Mr. Downs' death.

A resolution to do all possible to conserve tin was adopted.

Pursuant to the recommendation of the Federal Reserve Board, the association unanimously adopted the Trade Acceptance plan and recommended its use by members.

Action was taken rescinding the resolution of 1899, excluding press representatives from the association meetings.

The credit bureau report shows that $646,212.71 in claims have been paid to date.

President Adams announced the illness of Henry Stein who, he said, had always so generously provided flowers for the chairman's table. He said Mr. Stein was in a hospital in Brooklyn, and that the flowers which decorated the table would be sent to him.

In closing, Mr. Adams said two records had been broken at the meeting: Luncheon attendance of 195 and applications for membership of 17.

W. Stanley Hawkins was again on hand to direct the musical program of the meeting.

### The List of Attendance.

The following concerns were represented as indicated:

Albany, N. Y.—Hoy & Co., John S. Hoy.

Bayonne, N. J.—Bayonne Supply Co. W. F. Higgins and G. E. Keenan; Fords Porcelain Works, W. S. Jellerson

Binghampton, N. Y.—Chas. Millar & Son Co., W. R. Jones.

Boston, Mass.—Braman, Dow & Co., F. W. Allison; Bre Mfg. Co., E. O. Carlson; Brown-Wales Co., Wm. H. Shurtleff; W. B. Hubbard & Sons Co.; F. W. Hubbard; Kohler Co., H. P. Chadbourn; Locke, Stevens & Co., Frank H. Locke; A. M. Morton & Co., D. Macfarlane; Standard Sanitary Mfg. Co., Robt. E. Sargent; Walworth Mfg. Co., C. J Chittenden; Youngstown Sheet & Tube Co., Geo. A. Taylor.

Bridgeport, Conn.—Bridgeport Plumbing Supply Co., S. Ketcham.

Bridgeton, N. J.—Salem Brass & Iron Mfg. Co., Thos. H. Powers.

Brockton, Mass.—Corcoran Supply Co., Joseph F. Corcoran.

Brooklyn, N. Y.—American Plumbing Mfg. Co., H. H. Sommer; J. D. Johnson Co., Inc., F. H. Boardman and J. H. Davis; Bernard S. Kelly; Richard J. Mullin; National Foundry Co. of New York; Robinson Stoneware Co., H. W. Cook.

Buffalo, N. Y.—Buffalo Plumbing Supply Co., J. C. Heber and Charles J. Waldow; and W. A. Case & Son Mfg. Co., John McClure Chase and J. P. Fell; Republic Iron & Supply Co., M. E. Gregg.

Camden, N. J.—Camden Pottery Co., T. Munroe Dobbins and F. D. Miller; Standard Tank & Seat Co., A. W. Stedman.

Cleveland, Ohio.—Elgin Brass Co., John A. Mangan.

Conshocken, Pa.—John Wood Mfg. Co., Frank Sutcliffe.

Dayton, Ohio—The Valle-Kimes Co., H. A. Stamper.

Decatur, Ill.—Leader Iron Works, T. E. O'Brien.

Detroit, Mich.—Detroit Valve & Fittings & Detroit Brass Wks., A. H. Warner.

East Orange, N. J.—D. L. Milliken.

Elmira, N. Y.—Irving D. Booth, Inc., Christopher Grant; The Kennedy Valve Mfg. Co., J. L. Peden; LeValley, McLeod, Kincaid Co., H. R. Kinkaid and Harold B. Stinson.

Hartford, Conn.—Plimpton & Hills Corporation, F. T. Stevens.

Haydenville, Mass.—The Haydenville Co., H. I. Tanner.

Holyoke, Mass.—C. F. Church Mfg. Co., Geo. W. Collins.

Huntingdon, Pa.—Atlantic Radiator Co., Howard T. Gates.

Irvington, N. Y.—Lord & Burnham Co., W. R. Stockwell.

Jersey City, N. J.—L. O. Koven & Bro., L. O. Koven.

Lambertville, N. J.—Philip J. Faherty.

Lansdale, Pa.—Krupp Foundry Co., W. A. Brecht.

Lexington, Mass.—Jefferson Union Co., Daniel T. Groff.

Long Island City, N. Y.—Mark Lissberger & Son., Inc., M. L. Lissberger and Oscar E. Planteroth.

Manchester, N. H.—Geo. E. Trudel Co., Geo. E. Trudel.

Mansfield, Ohio.—Ohio Brass Co., J. O. Patrick and L. L Wilkinson.

Newark, N. J.—Alberene Stone Co., F. R. Nichols; W. V. Egbert & Co., DeWitt Cook; Benj. Wulach.

New Haven, Ct.—C. S. Mersick & Co., A. W. Walker.

New York City, N. Y.—Alberene Stone Co., E. L. Collins, Edw. C. Jensen, A. Y. Meeker and R. J. Nyce; American Pin Co., L. S. Rothwell; American Radiator Co., W. M. Cosgrove; Behrer & Co., Martin Behrer; Arnold Behrer & Sons, Clarence Behrer; The Bowers Pottery Co., Thos. H Hutchinson; Bre Mfg. Co., George B. Muller; The Cahill Iron Works, Thos. H. Hutchinson; The Central Foundry Co., Wm. E. Davoren and J. P. Donohue; Detroit Brass Works & Detroit Valve & Fittings Co., H. Romeyn Smith; C. V. Driggs, Inc., C. V. Driggs; F. N. DuBois & Co., E. E. Haff; Fee & Mason, Thomas Fee; General Ceramics Co., J. R. Parr; Sam S. Glauber, Inc., Emilie Glauber; The Haydenville Co., S. C. Herrmann and J. A. Machado; Jenkins Bros., John T. Bulkley and Farnham Yardley; J. D. Johnson Co., Inc., W. D. Cavanaugh and Walter S. Gibbs; The Kennedy Valve Mfg. Co., C. H. Kennedy; Kewanee Boiler Co., Homer Addams; Kohler Co., W. H. Barth; L. O. Koven & Bro., Wm. Schulmerich; J. K. Larkin & Co., H. E. Bauer, I. T. Culbert; Leader Iron Works, Clem Erisman and W. P. Stauder; McNab & Harlin Mfg. Co., H. P. Hallock, Edw. Hammann; J. L. Mott Iron Works, Edward A. Quinn; John A. Murray & Co., John A. Murray and Wm. M. Murray; M. O'Neil Supply Co., L. M. O'Neil and Michael O'Neil; Pierce, Butler & Pierce Mfg. Corporation, C. F. Bennett, E. F. Glore, J. M. G. Kelly and Walter C. Moriarty; Richmond Radiator Co., P. M. Beecher; A. B. Sands & Son Co., J. H. Leonard; Wm. B. Scaife & Sons Co., H. F. Reynolds; E. Smolka Plbg. Supply Co., E. Smolka; Standard Sanitary Mfg. Co., Wm. P. Corcoran; Toledo Pipe Threading Machine Co., Clarence A. Popp; United Plumbers' Supply Co., Samuel Ross; Youngstown Sheet & Tube Co., William B. Blowers and A. Purnell.

Norfolk, Va.—Virginia-Carolina Supply Co., A. A. Tomlinson.

Perth Amboy, N. J.—Fords Porcelain Works, E. F. Disbrow.

Philadelphia, Pa.—American Tin & Terne Plate Co., Walter Sippel; Bridgman Bros. Co., Geo. H. Wobensmith; Dick Bros., Inc., Russell D. Knight; Endicott-Weber Co., R. C. Endicott and C. L. Weber; Stanley G. Flagg & Co., E. Raysor; Froelich Bros., Inc., J. W. Farrell and A. A. Tomlinson; Hainet Jones & Cadbury Co., J. Harvey Borton, John T. Brown, Jr., Thomas H. Livezey; Keystone Supply & Mfg. Co., F. W. Dows; Kitson Co., H. S. Fife; Kohler Co., H. J. Hanna; MacMullen & Co., A. V. Openshaw; Thos. Savill's Sons, William S. Savill; Standard Sanitary Mfg. Co., J. Chas. Parry; Youngstown Sheet & Tube Co., G. B. Strausner.

Pittsburgh, Pa.—A. M. Byers Co., R. W. Kenney and T. L. Lewis; Jones & Laughlin Steel Co., F. D. Grunder; Lawson Mfg. Co., Arthur Nichols; Wm. B. Scaife & Sons Co., F. W. Peters; Standard Sanitary Mfg. Co., James F. Conran, H. J. C. Heckman and C. B. Nash; United States Sanitary Mfg. Co., F. W. Broatch and Frank G. Newton

Port Chester, N. Y.—Abendroth Bros., W. J. Hammett, Frank M. Mills, Frank E. Seeley and A. R. Wilcox.

Richmond, Va.—Haines, Jones & Cadbury Co., Robt. E. Saul; Virginia-Carolina Supply Co., W. B. Tomlinson.

Rochester, N. Y.—Samuel Sloan & Co., Guilford R. Adams.

Rutland, Vt.—Lincoln Iron Works, A. C. Marshall.

Savannah, Ga.—Haines, Jones & Cadbury Co., Leslie B. Fowler.

Scranton, Pa.—R. E. Weeks Co., M. F. Corcoran.

Somerville, Mass.—Ideal Supply Co., W. F. Bennett; Somerville Iron Works, B. Schutz.

Springfield, Mass.—E. Stebbins Mfg. Co., R. H. Smith.

Steubenville, Ohio—La Belle Iron Wks., H. W. Bishop, Jr.

Syracuse, N. Y.—W. A. Case & Son Mfg. Co., O. W. Middaugh.

Trenton, N. J.—Acme Sanitary Pottery Co., James A. Dorety, Jr.; John Maddock's Sons, F. W. Bamford; Thos. Maddock's Sons Co., A. M. Maddock; Monument Pottery Co., Harold Wolff and John F. Wolff; The J. L. Mott Iron Works, E. Hammann and E. L. Penfrase; Sanitary Earthenware Specialty Co., John A. Moore; The Trenton Potteries Co., E. S. Aitkin, Wm. J. Bapst and W. G. Titus; Warren. Balderston & Co., Geo. W. Balderston and H. S. Bonner.

Troy, N. Y.—Geo. H. Cole Supply Co., Geo. H. Cole and Lester F. Cole.

Utica, N. Y.—Chas. Miller & Son Co., A. H. Dobson and L. D. Fowler; Utica Plumbing Supply Co., R. A. Tate.

Washington, D. C.—Standard Sanitary Mfg. Co., George Herth, Jr.

Watertown, N. Y.—The Hunting Co., L. H. Cosler; John Weekes & Son Co., John Weekes; J. B. Wise, Inc., W. A. Brecht.

Wilkes-Barre, Pa.—Wyoming Valley Supply & Mfg. Co. Joseph F. Evans.

Wilmington, Del.—Speakman Supply & Pipe Co., Harry E. Speakman.

Youngstown, Ohio—Republic Iron & Steel Co., A. E Walker.

**Visitors and Guests.**

Bridgeport, Conn.—Armstrong Mfg. Co., Theo. Courtright, Geo. M. Brown

Brooklyn, N. Y.—Simon, Gasner & Sons Co., Henry D Gasner.

Cambridge, Mass.—Jas. S. Cassedy of N. A. M. P.

Jersey City, N. J.—National Air Cell Covering Co., E. T. Connell and G. C. Hall.

Manchester, N. H.—Mrs. Geo. E. Trudel.

New York City, N. Y.—Central Tube Co., E. F. Conroy and James S. Weaver; F. W. Dodge Co., A. L. Black and F. T. Miller; "Domestic Engineering," C. G. Fundinger; Kalamazoo Sanitary Mfg. Co., I. L. Stulsaft; "Merchant Plumber and Fitter" W. G. McCormick and W. J. Marshall; "The Metal Worker," A. V. Hutchinson; National Tube Co., E. N. Keyes and Cornelius F. Roland; "Plumbers' Trade Journal," R. G. Bookout and A. A. DuMond; Gipsy Smith; Mrs. Max Solomon; Robt. K. Story.

Philadelphia, Pa.—Pittsburgh Valve & Fittings Co., G. P. Cartwright.

Pittsburgh, Pa.—National Pipe and Supplies Association, Geo. D. McIlvaine.

Rochester, N. Y.—Mrs. G. R. Adams.

Stamford, Conn.—Mr. and Mrs. Wm. Cohn.

Trenton, N. J.—Cochran, Drugan & Co., Malcolm G. Oliphant.

## P. J. MADDEN CALLED BY DEATH.

Patrick J. Madden, manager of the Sanitary Department of James B. Clow & Sons, Chicago, who won renown in the plumbing trade for his creative genius in designing and perfecting many sanitary appliances and improving old ones, died on Sunday, June 16th, in his sixtieth year, following a period of failing health, which culminated in Bright's disease. He was born in Rochester, N. Y., August 28, 1858, where he first embarked into business as a manufacturer of automatic closets. Mr. Madden's splendid contribution to sanitary progress in the trade is universally conceded. His constructive achievements ushered in a new era of advancement in the manufacture of the health-conserving conveniences installed by the plumber and sanitary engineer. Before the advent of Madden's genius a type of fixtures was in vogue, which is now considered crude. His creations revolutionized prevailing types, just as the genius of Ericsson with his Monitor changed the construction of warships from wood to steel. It has quite often been stated that the shape and pattern of most of the goods in the plumbing line are derived from the creation of Madden. From 1893 to 1912 he spent practically half of his time in Trenton, perfecting the design of fixtures. His extraordinary inventive power was credited with the radical improvements in the bulk of plumbing goods manufactured during those years. What he accomplished tended virtually to change the sanitary industry of the country, elevating it to the dignity of a great industry. The modern bubbling drinking fountain is credited to his fertile intellect, being originally his pattern. His designs in lavatories, closets, urinals, etc., marked a new era in the manufacture of these goods. In 1890 he became connected with James B. Clow & Sons. Prior to that time he had invented the first automatic closet. In a chapter on modern sanitary appliances the Encyclopedia Britannica gives Madden credit for improvements in modern plumbing specialties. He was first identified with the Clow concern as a sales representative in Chicago, and it was while calling on the local trade that he met the woman he afterwards married—Katherine Garvey, daughter of J. Garvey, one of the old guard in the plumbing business in Cook County. The city of Havana, Cuba, is indebted to Madden for his able assistance in the sanitary improvements achieved there in 1899-1900. Part of the work was personally supervised by him. Later he represented the Clow concern in Panama and South America. His widow, two sons and two daughters survive him. The funeral services were held from his late residence, 912 Buena Avenue, Chicago, on Wednesday morning, June 19th.

The Late P. J. Madden.

## JUNE TOURNAMENT OF WESTERN GOLF ASSOCIATION AT EVANSTON, ILL.

Lowering clouds and threatening weather do not necessarily dampen or prevent the scheduled plans of good fellowship. At least it would seem that such is the spirit of the members of the Western Trade Golf Association, who, oblivious of an apparent rainfall, reported for a gutta percha drive at the Evanston Golf Club, Evanston, Ill., on Tuesday, June 18th. It was said to have been the best attended tournament in the history of the association, over sixty members and guests being present.

At the dinner, given in the evening at the club house, Frank Keeler invited the members to play at the Rockford Golf Club, this being a special invitation. About thirty of the members signified their acceptance of the invitation to come to Rockford on Thursday, June 27th, leaving Chicago in the morning via the Illinois Central Railway and returning in the evening. The distance is about two and one-half hours' ride from Chicago.

J. B. Rahm, of Omaha, also extended an invitation to the members to play in that city. This was tentatively accepted for some future time during the year.

Frank K. Chew, of New York City, won the guest prize during the day, turning in a score of 80.

Joseph Carroll won the association cup and will be the first this year to have his name engraved upon this trophy—of which he will be furnished a replica for his desk or den. His net score was 61, gross 93, and handicap 32.

During the dinner, the advisibility of reducing the handicaps was discussed, pro and con, but was finally left in the hands of the executive committee.

Following the noon luncheon, which was served in the club house, the players began the afternoon's offensive. The winners of the fifteen flights were:

First flight, C. H. Bishop; runner-up, W. B. Dale.
Second flight, E. L. Bortner; runner-up, H. A. Cross.
Third flight, H. E. Keeler; runner-up, A. S. Frampton.
Fourth flight, P. M. Munn; runner-up, G. Christopher.

| | Gross. | Hndcp. | Net |
|---|---|---|---|
| W. H. Meyst (Prize Winner) | 95 | 13 | 82 |
| A. S. Frampton | 103 | 22 | 81 |
| **Fourth Flight:** | | | |
| G. Christopher (Prize Winner) | 105 | 24 | 81 |
| B. A. Schutz | 119 | 17 | 102 |
| P. M. Munn (Prize Winner) | 126 | 47 | 71 |
| F. S. Crumley | 145 | 48 | 97 |

**A. S. Frampton and H. E. Keeler Settling Up Before the Game. Wm. Brace Puzzled by the Score. E. L. Dawes and M. C. Wilde. —From "Domestic Engineering" Photos, Taken at Western Trade Golf Association's Tournament at Evanston Golf Club, June 18, 1918.**

Fifth flight, J. B. Rahm; runner-up, Paul Blatchford.
Sixth flight, Wm. Boyd; runner-up, N. H. Blatchford.
Seventh flight, W. Wickersham; runner-up, J. F. Tuttle.
Eighth flight, L. B. Fulton; runner-up, M. C. Wilde.
Ninth flight, Joseph Carroll; runner-up, F. K. Dibley.
Tenth flight, J. F. Corcoran; runner-up, Frank P. Keeney.
Eleventh flight, H. E. Whitney; runner-up, E. W. Sanborn.
Twelfth flight, R. Andrews; runner-up E. J. Claffey.
Thirteenth flight, J. M. Stannard; runner-up, F. Keeler
Fourteenth flight, H. N. Booth; runner-up, Wm. Devine, Jr.
Fifteenth flight, F. A. Gregory; runner-up, L. C Huckins.

| | | | |
|---|---|---|---|
| **Fifth Flight.** | | | |
| J. B. Rahm (Prize Winner) | 83 | 7 | 76 |
| J. Ludlow | 95 | 14 | 81 |
| H. Shaw | 95 | 10 | 85 |
| P. Blatchford (Prize Winner) | 99 | 18 | 81 |
| **Sixth Flight.** | | | |
| N. H. Blatchford (Prize Winner) | 105 | 25 | 79 |
| J. C. Hornung | 105 | 21 | 84 |
| C. C. Todd (Prize Winner) | 116 | 26 | 90 |
| Wm. Boyd | 129 | 38 | 62 |
| **Seventh Flight.** | | | |
| H. M. Sedgwick | 90 | 15 | 75 |
| W. Wickersham (Prize Winner) | 83 | 14 | 69 |
| J. F. Tuttle | 89 | 14 | 71 |
| S. G. Hackett | 103 | 16 | 87 |
| **Eighth Flight.** | | | |
| E. L. Dawes (Prize Winner) | 114 | 27 | 87 |

**J. R. Andrews, R. M. Stackhouse, E. J. Claffey, J. E. Ludlow, F. M. Minninger, H. N. Booth and J. H. Fisher.—From "Domestic Engineering;" Photos Taken at Western Trade Golf Association's T ournament at Evanston Golf Club, June 18, 1918.**

The individual scores of the players at the close of the afternoon play were as follows:

| First Flight | Gross. | Hndcp. | Net |
|---|---|---|---|
| S. L. Wright | 113 | 32 | 82 |
| F. K. Chew | 112 | 32 | 80 |
| W. B. Dale | 96 | 22 | 74 |
| C. H. Bishop | 98 | 26 | 72 |
| **Second Flight.** | | | |
| E. L. Bortner (Prize Winner) | 88 | 22 | 66 |
| L. C. LaFleur | 139 | 58 | 81 |
| H. A. Cross (Prize Winner) | 128 | 58 | 70 |
| A. F. Sheehan | 147 | 42 | 105 |
| **Third Flight.** | | | |
| H. E. Keeler | 98 | 22 | 78 |
| T. N. Johnson (Prize Winner) | 105 | 18 | 87 |
| L. B. Fulton | 109 | 43 | 66 |
| J. F. Conran | 110 | 10 | 100 |
| M. C. Wilde (Prize Winner) | 94 | 12 | 82 |
| **Ninth Flight.** | | | |
| W. Brace (Prize Winner) | 116 | 27 | 89 |
| C. H. Anthony | 120 | 27 | 93 |
| Joe Carroll | 93 | 32 | 61 |
| F. K. Dibley (Prize Winner) | 105 | 26 | 79 |
| **Tenth Flight.** | | | |
| J. Dougherty (Prize Winner) | 130 | 24 | 106 |
| F. P. Keeney | 136 | 45 | 91 |
| G. B. Irish | 138 | 24 | 114 |
| J. F. Corcoran (Prize Winner) | 124 | 47 | 77 |
| **Eleventh Flight.** | | | |
| H. E. Whitney (Prize Winner) | 91 | 25 | 66 |
| J. P. Dugger | 106 | 23 | 83 |

| | Gross. | Hndcp. | Net |
|---|---|---|---|
| E. W. Sanborn (Prize Winner) | 93 | 20 | 73 |
| S. A. Witt | 137 | 24 | 113 |
| **Twelfth Flight.** | | | |
| E. J. Claffey | 107 | 26 | 81 |
| R. M. Stackhouse (Prize Winner) | 108 | 24 | 84 |
| R. Andrews (Prize Winner) | 93 | 19 | 74 |
| L. R. Taylor | 88 | 11 | 77 |
| **Thirteenth Flight.** | | | |
| C. D. Little | 97 | 15 | 82 |
| F. Keeler (Prize Winner) | 83 | 8 | 75 |
| J. M. Stannard (Prize Winner) | 87 | 15 | 72 |
| R. R. Sterling | 00 | 15 | 85 |
| **Fourteenth Flight.** | | | |
| Wm. Devine, Jr. | 129 | 48 | 81 |
| H. N. Booth | 113 | 48 | 65 |
| J. H. Fisher | 122 | 24 | 98 |
| F. M. Minninger | 141 | 48 | 93 |
| **Fifteenth Flight.** | | | |
| F. A. Gregory | 90 | 12 | 78 |
| L. C. Huckins (Prize Winner) | 98 | 18 | 79 |
| W. T. Morgan | | | |
| D. E. McCabe (Prize Winner) | 101 | 20 | 81 |

G. Christopher, of the Chicago office of the Youngstown Sheet & Tube Co., Youngstown, O., was elected to membership in the association.

A vote of thanks was accorded to the Board of Governors of the Evanston Golf Club for their courtesy in extending the association the privileges of the links, and to S. L. Wright, who had invited the organization to Evanston.

The next tournament of the Western Trade Golf Association will be held at the Olympia Fields Country Club, near Flossmoor, Ill., on Tuesday, July 16th.

## OPENS OFFICE IN MANCHESTER, N. H.

Charles E. Perkins, for many years connected with the Manchester Supply Co., of Manchester, N. H., as manager and in other important positions, has gone into business for himself with an office at Room 508 Beacon Building, 814 Elm Street, Manchester. Mr. Perkins will handle various lines of engineering and heating specialities and also mill supplies. He has many friends in the plumbing and heating trade in New Hampshire.

## FUEL ECONOMY IN THE OPERATION OF HAND-FIRED POWER PLANTS.

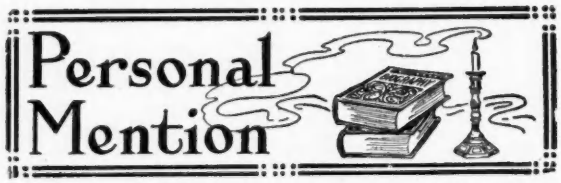
The scarcity of coal last winter and the recent warnings of the fuel administration regarding the possibility of a shortage next winter emphasize the need for greater economy in the use of fuel. The present high rate of production is still insufficient to supply all needs, and there seems to be no possibility of an increase in the output of the mines sufficient to satisfy every demand.

There are two possible results of this fuel shortage; either certain industries must close down or more work must be done with the coal available. The Engineering Experiment Station of the University of Illinois has just issued a 90-page booklet printed in four colors, which shows that the average smaller power plant can save fifteen per cent of its fuel by the exercise of greater care in equipment and operation. This means a saving of twelve or thirteen million tons per annum, if applied throughout the country.

The purpose of the publication, the title of which is "Fuel Economy in the Operation of Hand-Fired Power Plants," is to present to owners, managers, superintendents, engineers, and firemen, certain suggestions which will help them in effecting greater fuel economy, and in determining the properties and characteristics of the coal purchased. Features of installation essential to the proper combustion of fuel are discussed, the practice to be observed in the operation of the plant is outlined; and the employment of simple devices for indicating conditions of operation is prescribed.

The publication was prepared by a special committee of the research staff of the Engineering Experiment Station assisted by an advisory committee consisting of Joseph Harrington, Advisory Engineer on Power Plant Design and Operation, Chicago; Arthur L. Rice, Editor, Power Plant Engineering, Chicago; John C. White, Chairman Educational Committee, National Association of Stationary Engineers, Madison, Wis.; O. P. Hood, Chief Mechanical Engineer, Bureau of Mines, Washington, D. C.; D. M. Myers, Advisory Engineer on Fuel Conservation, United States Fuel Administration, Washington, D. C.; and C. R. Richards, Dean of the College of Engineering and Director of the Engineering Experiment Station of the University of Illinois.

Only a limited supply of copies of this publication is available for free distribution. Requests for copies should be directed to the Engineering Experiment Station, Urbana, Illinois, and should specify "Circular No. 7."




The daily press carries the information that E. G. Ince, who will be remembered as a member of the sales force of the Good Manufacturing Co., of New York City, has attained distinction as an officer with the American forces in France. Single-handed he captured five German soldiers at one time, and he has been conspicuous by reason of his bravery under fire.

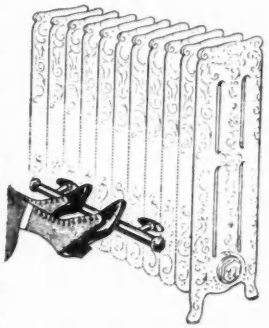
Ensign Albert W. Hills, who was formerly western representative for the Haydenville Co., of Haydenville, Mass., with headquarters in Chicago, is now at a naval base in an Atlantic port in charge of coaling ships in the transport service. He received his commission recently after some months of strenuous work of preparation for the honor. He served as an able seaman on the high seas and earned the unqualified commendation of his superior officers. Contemplating the accompanying photo his friends will note that he now possesses all the earmarks of the typical Yankee naval officer.

Ensign A. W. Hills.

Edward Harbordt, of the U. S. Water & Steam Supply Co., of Kansas City, Mo., and Cliff Elliott, Kansas City, Mo., representative of the Wheeling Steel & Iron Co., Wheeling, W. Va., have volunteered to work in the wheat fields on the Sherman ranch during the summer. They will receive a daily stipend of $4.50. They have agreed to donate all the money earned in this way to the Red Cross, the Y. M. C. A. and the Knights of Columbus. The Kansas City trade is very much impressed with the patriotic spirit demonstrated by these gentlemen, and consider that they have been very much flattered by the compensation offered them.

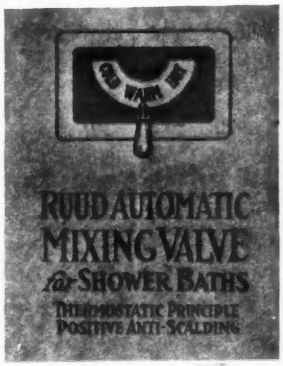
When is a volunteer not a volunteer? You needn't ask the recruiting sergeant. Ask Sam. He knows. Now Sam is a live American, full of red, white and blue conviction—of the kind that has made Columbia the land of the free. Sam, who is the sales representative of a large pipe manufacturer in the Middle West, was in draft age. He decided to call on Uncle Sam before the old gentleman called on him. Sam therefore volunteered, but, alas, as the poet hath said: "Of all sad words of tongue or pen—" Well we all know the rest of the verse. The recruiting officer had tentatively accepted him. Sam was in high spirits. But suddenly a dark cloud of gloom hovered over his sunny expectations—the Test—ah, the Test—whoever slipped that word into the English language? Curses on his dome! Sam had passed the test of patriotism and all that, but there was one remaining test—the eye. He realized that this one thing might deny him the supreme opportunity of going over the top and jabbing some proud Prussian with the cold steel. Sam therefore tried camouflage in order to pull the wool over the eyes of his Uncle Sammy. He got an eye testing chart from an oculist and memorized the letters. At the recruiting station he was a wonder. "Excellent!" exclaimed the army doctor, "You have memorized Chart Number 1 perfectly, but this is Chart Number 3 that I asked you to read. The spirit is willing I see, but the eye is weak. Have a cigar."

## A NEW RADIATOR RAIL.

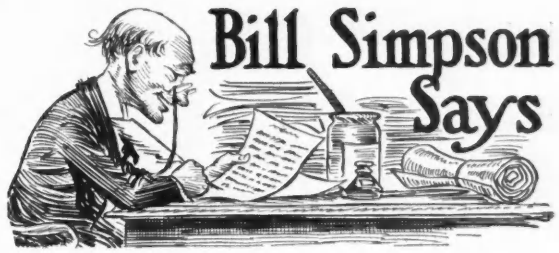


The accompanying illustration shows a new device which has just been placed on the market by the Thexton Manufacturing Co., of Minneapolis. This device has been designed for the purpose of making it possible to warm one's feet without injurying the shoes or marring the finish of the radiator, affording the tired business man an opportunity of tilting his feet at a comfortable angle, and the tired housewife restful repose, whenever opportunity offers. The device is made of pressed steel, nickel plated, and is named "Comfort Rail."

## TRADE LITERATURE.



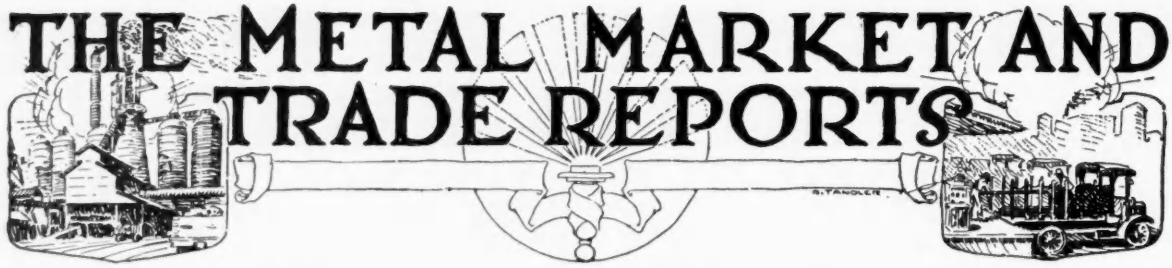

"Ruud Automatic Mixing Valve for Shower Baths," is the title of an exceptionally neat booklet issued by the Ruud Manufacturing Co., of Pittsburgh, Pa., the front cover design of which is shown herewith in miniature. Besides illustrating and describing in minute detail the construction and operation of the Ruud automatic mixing valve for shower baths, it also illustrates and describes the Ruud instantaneous automatic water heater and the Ruud garbage incinerator. The booklet consists of 20 pages, 8½ by 11 inches.




(With Apologies to K. C. B.)

Some wise man has said:
"United we Stand and
Divided we Hang."
In other words,
We must all fight together
As a single unit,
If we are to win.
This is true of War,
But it is just as true
Of the present Bigger Business
Campaign, which is now
Getting up Steam.
It won't do for you to
Sit back idly and say:
"You Bet, that's a good idee."
Nix. You must throw your weight
In with the others and
Help Make Bigger, Better Business
A REALITY instead of an Ideal.
Keep your eye on the Reading
And Advertising Pages of
"DOMESTIC ENGINEERING,"
And you will find dozens of new
Money-making plans and ideas,
Which you can put into effect
Right in your home town—Now!
The Heating and Plumbing Contractors
Of the United States are getting
Into action, and the fight is on.
It's time for YOU
To get into the front line trenches
And help Win the War
For Bigger Business and
Bigger Profits for the
Plumbing and Heating Fraternity
Of the United States.
Don't be a slacker—Do your Part.

# THE METAL MARKET AND TRADE REPORTS



### Steel and Iron.

The effect of the new regulations concerning distribution of steel is shown by the placing of orders for plates, shapes and bars needed for the construction of 100,000 freight cars ordered by the Government. About 400,000 tons of steel have been apportioned to several mills, and deliveries will begin soon, provided they do not interfere with those of the shipbuilding industry, which has preference over all others. It will be of interest to note if any of this car steel will be held back to give preference to ship steel, or whether the mills will be able to take care of both together and still provide for the many other drains upon their productive resources. As things stand at present, the Government has practically commandeered the entire output of plates, but 500,000 tons of plates, shapes and bars are yet to be allotted to the builders on priority orders. The time for the conference to establish prices for the third quarter is near at hand, but there is little discussion concerning the possible outcome, and not many changes are to be expected.

Receipts of coke have been so plentiful of late that there is no grounds for complaint, and some furnaces have been able to accumulate a surplus. Production of pig iron continues on a huge scale, but demand is as heavy as ever, and a shortage still exists. New business is being discouraged as much as possible, and the only bookings are for priority orders. The old contracts are practically abrogated and serve merely as memoranda for shipment, when such shipments may be made. All depends upon the order of preference, in which the consumer stands, how much iron he may have upon his contract. The burden of responsibility for the non-delivery is now transferred from the producers to the Government. It is expected, however, that in time there will be enough iron to make a fair allowance to the lesser essential industries, especially of the lower grades. Prices are based upon the old grades of No. 2 foundry at $33, and basic at $32 at the furnace, and will be operative until July 1st.

### Copper.

Consumption of copper is known to be heavy, but there is nothing new in the situation, which is well understood. There seems to be some dissatisfaction in regard to the present price, but the market pursues its even course and is prepared to have the present price stand undisturbed until August 15th. Very little copper is being consumed by the industries not connected with the war program of the Government. The price, as established, will remain at 23½ cents for carload lots, and 24.67½ cents for smaller quantities

### Lead.

Demand for lead was heavy last week, and offerings were light. Prices advanced and the market was strong. Spot closed at 7.60 to 7.80 cents, at New York, and 7½ to 7.70 cents at East St. Louis.

### Tin.

The position of tin is somewhat reversed in that instead of consumers begging for tin, as they did not long ago, sellers are anxious for buyers. Chinese tin is almost entirely absent from the market, but there have been offerings of Banka and Lamb & Flagg, who cannot find buyers at current prices. English Lamb & Flagg spot tin was offered at 90 cents, and for tin afloat at 89½ cents. Banka tin for June shipment was quoted at 88 cents, and Straits, subject to permit, at 80 to 85 cents.

### Spelter.

The market in spelter keeps growing stronger, as a result of a steady demand and a gradual depletion of stocks. Sellers are more sure of their position now, and are not forcing the market. Spot and June were quoted at 7.85 to 7.95 cents in New York, and 7.65 to 7.75 cents at East St. Louis.

### New York Old Metal Market.

The following prices are current for old metals.

| | Buying. | Selling. |
|---|---|---|
| Copper, heavy | 22 cents | 23 cents |
| Copper, light | 18½ to 19 cents | 21½ cents |
| Copper wire | 20 to 21 cents | 22 cents |
| Brass, heavy | 13½ to 13¾ cents | 14½ cents |
| Brass, light | 10½ to 11 cents | 12 cents |
| Lead, heavy | 6½ to 6¾ cents | 7¼ cents |
| Tea lead | 5 to 5¼ cents | 6 cents |
| Zinc scrap | 5½ to 5¾ cents | 6½ cents |
| Solder joints | 14 to 15 cents | 16 cents |
| Cocks and faucets | 17 to 17½ cents | 18½ cents |
| Mixed babbitt | 7½ to 8 cents | 9 cents |

### Chicago Old Metal Market.

There is very little new activity in the market for scrap metals, but values are holding up well and there are but few changes in quotations reported. Dealers are confining purchases to the material needed to take care of shipments, and it is reported that consumers are not inclined to take on other than much-needed grades of scrap. The copper market, while not showing any change in quotations, is inclined to be weak. Heavy copper and copper wire is quoted at 21 to 22¼ cents and light copper at 19 to 19¾ cents.

Although there is very little business for scrap lead, the market is strong, reflecting the conditions that prevail in the market for new metal. Dealers have revised their prices upward and values are quoted at 5¼ to 5¾ cents for tea lead and 6½ to 6¾ cents for lead scrap.

Tin scrap has again come into fairly heavy demand and the market is strong.

Chicago wholesale dealers' prices are nominally as follows:

| | Buying. | Selling. |
|---|---|---|
| Heavy yellow brass | 15 to 15½ cents | 16½ cents |
| Brass, light | 11 to 11½ cents | 13 cents |
| Red brass | 21 to 22 cents | 23 cents |
| Cocks and faucets | 16 to 17 cents | 18 cents |
| Copper, heavy | 21 to 22¼ cents | 23 cents |
| Copper, light | 19 to 19¾ cents | 21 cents |
| Lead, heavy | 6½ to 6¾ cents | 7¼ cents |
| Tea lead | 5¼ to 5¾ cents | 6½ cents |
| Solder joints | 14¾ to 15 cents | 16 cents |
| Old iron pipe | $23.50 | $24.00 |

The buying prices are those which the larger dealers will pay; the selling prices are market quotations.

### The Pipe Market.

There is no change in the pipe market. Quotations on less than car lots of full weight steel pipe remain as follows:

| | Butt Weld. | | Lap Weld. | |
|---|---|---|---|---|
| | Blk. | Galv. | Blk. | Galv. |
| ⅛ to ⅜ inch | 38 | 10 | .... | .... |
| ½ inch | 42 | 26 | .... | .... |
| ¾ to 3 inch | 45 | 30 | .... | .... |
| 2 inch | .... | .... | 38 | 24 |
| 2½ to 6 inch | .... | .... | 41 | 27 |
| 7 to 12 inch | .... | .... | 38 | 23 |
| 12 to 14 inch | .... | .... | 28½ | .... |
| 15 inch | .... | .... | 26 | .... |

The quotations apply to all shipments from stock, regardless of quantity.

On extra strong and double extra strong steel pipe in less than car lots, quotations are as follows:

| | Extra Strong | | | | Double Extra Strong | | | |
|---|---|---|---|---|---|---|---|---|
| | Plain Ends | | Plain Ends | | Plain Ends | | Pl'n Ends | |
| | Butt Weld | | Lap Weld | | Butt Weld | | Lap Weld | |
| | Blk. | Galv. | Blk. | Galv. | Blk. | Galv. | Blk. | Galv. |
| ⅛, ¼ and ⅜ inch | 31 | 11 | .... | .... | .... | .... | .... | .... |
| ½ inch | 36 | 16 | .... | .... | 27 | 7 | .... | .... |
| ¾ to 1½ inch | 40 | 20 | .... | .... | 30 | 10 | .... | .... |
| 2 to 2½ inch | 41 | 21 | .... | .... | 32 | 12 | .... | .... |
| 3 inch | 41 | 21 | .... | .... | .... | .... | .... | .... |
| 2 inch | .... | .... | 33 | 14 | .... | .... | 25 | 6 |
| 2½ to 4 inch | .... | .... | 36 | 17 | .... | .... | 27 | 8 |
| 4½ to 6 inch | .... | .... | 35 | 16 | .... | .... | 26 | 7 |
| 7 to 8 inch | .... | .... | 31 | 12 | .... | .... | 21 | 2 |
| 9 to 12 inch | .... | .... | 26 | 7 | .... | .... | .... | .... |

With threads only, the basing discount is 1 and 1½ points lower. With threads and coupling the basing discount is 3 points lower. The quotations apply to all quantities less than car lots.

Quotations on full weight genuine iron pipe, in less than car lots, are as follows:

| | Butt Weld | | Lap Weld | |
|---|---|---|---|---|
| | Blk. | Galv. | Blk. | Galv. |
| ⅛ and ¼ inch | 16 | +13 | .... | .... |
| ⅜ inch | 17 | +12 | .... | .... |
| ½ inch | 21 | 1 | .... | .... |
| ¾ and 1 inch | 26 | 8 | .... | .... |
| 1¼ inch | 26 | 8 | 11 | +6 |
| 1½ inch | 26 | 8 | 18 | 2 |
| 2 inch | .... | .... | 19 | 3 |
| 2½ to 6 inch | .... | .... | 18 | 3 |
| 7 to 12 inch | .... | .... | 18 | 3 |

These quotations are f. o. b. Pittsburgh, and apply to all shipments from stock, regardless of quantity.

On extra strong and double extra strong genuine wrought iron pipe, with plain ends and in less than car lots, the quotations are as follows:

| | Extra Strong | | | | Double Extra Strong | | | |
|---|---|---|---|---|---|---|---|---|
| | Butt Weld | | Lap Weld | | Butt Weld | | Lap Weld | |
| | Blk. | Galv. | Blk. | Galv. | Blk. | Galv. | Blk. | Galv. |
| ⅛ to ⅜ inch | 13 | +7 | .... | .... | .... | .... | .... | .... |
| ½ inch | 18 | +2 | .... | .... | 5 | +15 | .... | .... |
| ¾ and 1 inch | 24 | 4 | .... | .... | 10 | +10 | .... | .... |
| 1¼ inch | 24 | 4 | 10 | +10 | 10 | +10 | .... | .... |
| 1½ inch | 24 | 4 | 16 | +4 | 10 | +10 | .... | .... |
| 2 inch | .... | .... | 18 | +2 | .... | .... | 5 | +14 |
| 2½ to 4 inch | .... | .... | 20 | List | .... | .... | 7 | +12 |
| 4½ to 6 inch | .... | .... | 19 | +1 | .... | .... | .... | .... |
| 7 to 8 inch | .... | .... | 11 | +9 | .... | .... | .... | .... |
| 9 to 12 inch | .... | .... | 6 | +14 | .... | .... | .... | .... |

These retail prices are f. o. b. Pittsburgh, and apply to all quantities except in car lots. With threads only, the basing discount is 1½ points lower. With threads and couplings, the basing discount is 3 points lower.

To ascertain the price in any city, deduct the proper freight rate from Pittsburgh to that city. To illustrate: ¾ to 3-inch steel pipe, black, is 45 per cent off, Pittsburgh. The freight to Chicago is 31 cents, or it would be 45 per cent minus .031, or .419 per cent Chicago for 10 cents a hundred freight you should deduct one point.

## GERMANS LOOK TO AMERICA FOR COPPER SUPPLIES.

That Germany is counting on American producers to replenish her copper supplies after the war is shown in an article by Dr. Felix Pinner in the "Berlin Tageblatt." Dr. Pinner recalls that in 1913 the United States exported 200,000 tons of copper to Germany, and he asserts that since the beginning of the war the copper production of the United States has almost doubled owing to the demand for munitions for the Allies.

When this war demand has ceased, he argues, there must inevitably be an overproduction of the metal in the United States, and no political enmity will induce the manufacturers under such conditions to refuse to deal with such a good customer as Germany. On the contrary, they will be in a hurry to recapture the German market, if for no other reason than to put a stop to the great development in the employment of substitutes which, owing to the scarcity of copper during the war, has made rapid strides in Germany.

## U-BOAT TAKES COPPER CARGO FROM NORWEGIAN VESSEL.

Reports brought by survivors of the Norwegian steamship "Vindeggen" shows that when that vessel was sunk by a German U-boat last week, 200 miles off Cape Charles, Va., the enemy made an unusually rich haul. The "Vindeggen" carried 2,500 tons of copper ingots, and before sinking her the U-boat took off 80 tons of the metal so greatly needed by Germany. The crew of the Norwegian ship was forced to aid in the transfer of the copper and the work took the better part of two days.

The "Vindeggen" had been chartered by the American Smelting & Refining Co., and left Valparaiso, Chile, with the copper cargo on May 20th, bound for New York. When the Teutons boarded the vessel and discovered the red metal they lost no time in looting all of it they could take aboard the submarine. It is believed the U-boat started at once for home, for the copper it had captured was worth more to Germany than the possible sinking of more ships by that particular U-boat.

## A QUESTION AND AN ANSWER.

Many of us in the great army of stay-at-homes chafe over our inaction during this war time and ask, "How can I help?" The editor of the "Brooklyn Eagle" gives this answer:

"Those who regard the sale of War Savings Stamps as a side enterprise or as something that appeals mainly to children totally miss the purpose behind a plan which is one of the best thus far evolved for war purposes. In the last analysis the selling of these stamps is the fitting of the whole nation to sustain the burden of the war. It is the application to war finance of the principle of universal service. It aims to enlist all of the American people in direct support of that gallant minority among them who have answered the call to arms and prepared themselves for the firing line.

"The War Savings Stamps supply the final and conclusive answer to the question: "How can we all help?"

J. F. Niblock, one of the younger plumbing contractors of Omaha, has disposed of his business and is preparing to join the service of the nation in the ship building department.

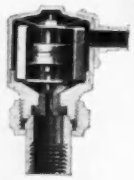
# Are You Keeping Your S

There is no reason why you shouldn't be. Even though new building NEW business from OLD buildings and be assured of a steady income.

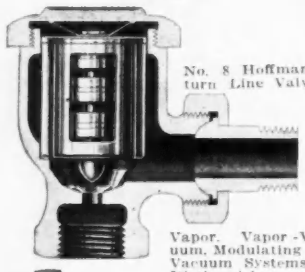
## For Instance

Let's see what you can do with HOFFMAN VALVES.

No. 6 Hoffman Quick Vent Float Air and Vacuum Valve. Passes all air quickly and stops its return. The one perfect device for quick vent vacuum service.



No. 3 Hoffman Air Line Valve for Drip or Vacuum Air Line Service. Passes all air—closes against steam.



No. 8 Hoffman Return Line Valve for Vapor, Vapor-Vacuum, Modulating and Vacuum Systems. Distinguishes positively between air, steam and water. Noiseless in operation. Thermostatic parts are interchangeable.

**The No. 1 Hoffman Siphon Air Valve** — Its use is a positive insurance that every square i whenever there is the slightest boiler pressure. Its use is also a positive insurance against steam Its use means **Fuel Economy** and **Heating Comfo**

**The No. 2 Hoffman Siphon Air & Vacuum Valve** — Its use means a continuance of radiator heat Its use means that after air is once driven out out by mechanical means. It is the very **"Last Word"** in automatic Air sible heat service for the least expenditure of

**The No. 3 Hoffman Air Line Valve** — Its use insures a steam hot radiator fro It is without question the best Air Line In the interest of **fuel economy** every c placed with a No. 3 Hoffman.

**The No. 4 Hoffman Junior Quick Vent Air Valve** — U. S. Government standard equipm Unquestionably the best Air Valve o users.

**The No. 5 Hoffman Quick Vent Float Air Valve** — The only valve of its kind on the stacks and other large heating u the lowest, possible fuel cost.

**The No. 6 Hoffman Quick Vent Float Air & Vacuum Valve** — Its use on the end of a steam r a stopping of air returning to out. It should be used as a Main V all Vapor Vacuum Jobs.

**The No. 8 Hoffman Return Line Valve** — Unquestionably the "L installed radiator return placing such failures wi successfully used on Ste Drips, etc., etc.

**The sale of Hoffman Valves is a Business Booster**

***Hoffman Valves***

Phantom View.

Exterior View.

**Another Important Addition to the**

**HOFFMAN Family**

The latest, but by no means least important, is the

**Hoffman Equalizing Loop**

Meets the need for a device to make **Vapor Heating safe** under any and all conditions.

It maintains an unvarying water line in boiler irrespective of boiler pressure—8 oz. or 5 lbs.—boiler water line remains at a constant level.

Keeps pressure in steam main 10 oz. ahead of pressure in return main, when boiler pressure is more than 10 oz.

No attention required.

Operates without noise.

Works equally efficient on old or new systems.

Use the Hoffman Equalizing Loop on your overhauling work. A business-builder for the steamfitter.

HOFFMAN VALVES

**512 Fifth Avenue**
**New York**

H

# Shop Busy?

ding is not very active, you can make
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## e

are inch of heating surface is **Steam Hot**
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eam or water leakage through the air valve.
**omfort** for the user.
heat after pressure goes off.
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c Air Valves and gives its user the greatest pos-
re of fuel.
from end to end but a Cold air line.
Line Air Valve on the market.
ery carbon post so called "Paul" Valve should be re-

uipment for venting end of mains, top of risers, etc., etc.
lve on the market for such service and so regarded by all

n the market. Its use in connection with the venting of coils,
ng units means complete heat service and full efficiency at
st.

am main means complete and perfect heating of the main and
g to the main through the valve after it has once been driven

in Vent where No. 2 Valves are used on the radiators and on

e "Last Word" in Miniature Steam Traps. Fully 50% of already
eturn traps are failures. In these days of enforced fuel economy re-
es with Hoffman No. 8 is easy. Hundreds of the No. 8s are being
n Sterilizers, Cooking Kettles, Clothes Pressers, Header Drips, Main

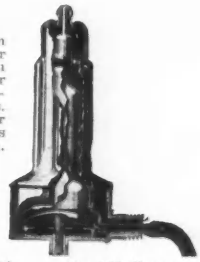
**oster and Reputation Builder for the Seller.** **Enlist in Their Sales Campaign Today.**

***alves Are Sold By All Jobbers of Steam Supplies***

HOFFMAN VALVES

**No. 1 Hoffman Siphon Air Valve**

for Gravity Systems. Passes all air freely—closes tight against steam and water.



No. 2 Hoffman Siphon Air and Vacuum Valve for Gravity Vacuum Systems. Vents all air and prevents its return. Leak-Proof.

No. 4 Hoffman Junior Quick Vent Air Valve for Quick Vent Service on Mains or Blast Coils. Vents air Quickly. Stops steam, but does not stop water.

No. 5 Hoffman Quick Vent Float Air Valve. Vents all air and prevents steam and water leakage.

# Hoffman Specialty Co.

**130 North Wells Street, Chicago**

**215 W. 7th Street**
**Los Angeles, Cal.**

# AMONG THE PLUMBING AND HEATING CONTRACTORS

## Illinois

**Chicago and Vicinity.**

The Jacob G. Weber Co., of 2841 North Clark Street, has been awarded the contract for the installation of the plumbing system in an addition to the Skokie School, at Ashland and Burr Avenues. The heating contract went to Schampel & Dougherty, of 173 West Washington Street. The architects are Perkins, Fellows & Hamilton, of 814 Tower Court.

The Roberts Plumbing Co., of 4544 North Western Avenue, will install the plumbing system in an eighteen-flat apartment building to be erected at a cost of $35,000 at 4701 North Troy Street. The heating system will be installed by Noble & Thumm, of 2313 Lincoln Avenue. The architect is Edward Benson, of 118 North La Salle Street.

Schampel & Dougherty, of 173 West Washington Street, has secured the contract for the installation of the heating system in an apartment building and garage, to be built at 6640 Glenwood Avenue.

E. Stevenson, of 6142 South Western Avenue, will install the plumbing in a residence to be erected at 3333 West Sixty-sixth Street.

Chas. Mundt, of 2202 Milwaukee Avenue, has been awarded the contract to install the plumbing system in a two-family apartment building to be erected at North Lawndale Avenue, near Belmont Avenue.

John Hoffman, of 2969 Cottage Grove Avenue, will install the plumbing system in a service station to be built at Crawford Avenue and Jackson Boulevard.

The Chicago Steam Heating Co., of 565 West Washington Boulevard, has been awarded the contract for installing the heating system in a department store, to be built at a cost of $25,000, at 1537-1539 West Chicago Avenue.

William J. Lang, of 7 West Division Street, will remodel the plumbing in a store at 833-835 North Clark Street.

A. C. Flynn, 718 West Sixty-third Street, was the successful bidder for the plumbing and heating contracts on the new $30,000 school and assembly hall at Gary, Ind., to be erected there soon.

Samuel Kersten, of 554 Jackson Boulevard, has been awarded the contract to install the plumbing and heating systems in a paint factory, to be erected at a cost of $15,000, at 3246-50 Shields Avenue.

**Other Cities in the State.**

The C. H. Law Plumbing & Heating Co., of 18 East Harrison Street, Chicago, has secured the contract for the installation of the plumbing systems in a hospital, to be erected at a cost of $200,000, at Rock Island.

B. D. Hunter, of Monmouth, will install the heating system in a church to be rebuilt at a cost of $24,000 in Galesburg.

Bush & Handwerk, of 155 Jefferson Street, Joliet, have been awarded the contract for the installation of the plumbing in a $10,000 garage on Desplaines Street, in that city.

W. T. Riley, of 502 Collins Street, Joliet, has secured the contract to install the heating system in a church, rectory and school, to be built at 323 Jefferson Street, in that city.

The T. E. Walters Co., of 16 South River Street, Aurora, will install the heating and plumbing system in a factory, to be erected at a cost of $16,000, at 170 Third Street, in that city.

Haegquist & Swords, of 1020 Fourth Avenue, Rockford, have secured the contract to install the plumbing in a residence, which is to be built at a cost of $8,000 on Harlan Avenue, in that city.

Harmon & Nichols, of Rockford, will install the heating system in an addition to the local Y. M. C. A., to be built at a cost of $30,000.

McEvilly & Flynn, of Second and Clair Streets, East St. Louis, will install the plumbing system in a hotel, which is to be built in that city at a cost of $33,816.

W. E. Downing, of Desplaines, has been awarded the contract for the installation of the plumbing system in an addition to a local school, which is to be erected at a cost of $15,000 at Desplaines.

## Indiana

**Indianapolis and Vicinity.**

James A. Diggle, of 214 North Delaware Street, Indianapolis, has been awarded the contract for the installation of the plumbing in the Indiana University School of Medicine's new building, which is to be erected on the grounds of the Robert W. Long Hospital on West Michigan Street. The contract amounts to $19,300. The new building will be as modern and as completely equipped as any medical school building of its size in the country. The heating contract has been awarded to the W. H. Johnson & Son Co., of 330 East Joseph Street, and will amount to $31,388. Plans for the new building contemplate the expenditure of about $250,000.

Callon Bros., of 24 South Alabama Street, Indianapolis,

**Wm. J. Woolley, Evansville, Ind.; Wm. J. Lang, Chicago, and C. H. Maloney, Gary, Ind.—From "Domestic Engineering" Photo, Taken at the St. Louis Convention of the National Association of Master Plumbers.**

have just received the contract for the installation of a vacuum heating system in the Service Motor Truck Company's nine new factory buildings at Wabash, Ind. The company, which recently received a large government contract for motor trucks, is contemplating the erection of five additional buildings in the near future.

The Vestal Plumbing Co., of 1123 Central Avenue, Indianapolis, has been awarded the plumbing and heating contract on the new $75,000 apartment building that is to be erected on Broadway by the Broadway Building Co. The building will contain twenty-four modern apartments.

### Other Cities in the State.

The number of building permits issued by the building inspector at South Bend for the month of May shows a loss over the same month of last year. Only 97 permits were issued with a total valuation of $75,095 during May this year. This shows a gain of one per cent over the month of April and a loss of 60 per cent over the same month of 1917.

Lynn Strack, of Mt. Vernon, has been awarded the plumbing and heating contracts on the new $15,000 school building that is to be erected soon. Mr. Strack's contracts amount to $3,350.

V. H. Osborne, of 115 East Eighth Street, Anderson, has been awarded the contract to install the plumbing in the new $15,000 office building that is to be erected at Twenty-third and St. Charles Streets for the Hill Pump Co., of that city. The heating contract on the building was awarded to John Longaker, of 216 East Tenth Street.

The Honest Plumbing Co., of Gary, was the successful bidder for the plumbing and heating contracts on the new $11,000 store building that is to be erected at 1400 East Washington Street for Kappelas Bros. Co.

H. Lohse & Co., of Evansville, have been awarded the contract for the installation of a heating system in the new $5,000 filling station that is to be erected at Fourth and Oak Streets for the Standard Oil Co.

Kiger & Co., of Indianapolis, have been awarded the plumbing contract on the new township school building that is to be erected in Jackson County, near Seymour. The heating contract was awarded to the Corbes Hardwar Co., of Seymour.

The purchase of the Central Heating Company's plant at Anderson, Ind., by the B. W. Bissell Company, of Indianapolis and Frankfort, was authorized by the Indiana Public Service Commission in an order issued Wednesday. The purchasing company was authorized to give its note for $65,000 for the plant and equipment. It was also authorized to issue $15,000 short-time notes in connection with the deal. The purchase of the plant is expected to end a troublesome source of complaints reaching the commission about the hot water heating service at Anderson.

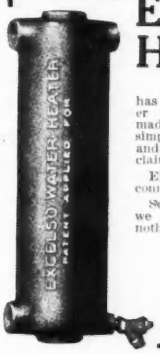
Tibbetts & Atkins, of Union City, have received the contract for the installation of the heating and ventilating system in a new school building that is to be erected in that city.

James T. Darrah, of Rochester, has secured the plumbing and heating contracts on a new residence that is to be erected there.

William Zimmerman, of 329 Oliver Street, Whiting, has received the contract for the installation of the plumbing and heating in J. Hussey's new residence. Mr. Zimmerman also has the contract to install the plumbing and heating in Frank O. Eatong's residence on Central Avenue.

J. B. Rockford, of 4324 Jefferson Street, Gary, was the successful bidder for the plumbing contract on the new


THE EXCELSO HEATER

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Eliminates coils. Easy to connect up to any job, new or old.

Send for one today on free trial. If it doesn't do all we claim for it, return within 30 days and it costs you nothing. Isn't that a fair proposition?

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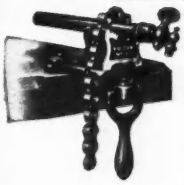
are Powerful but not Destructive



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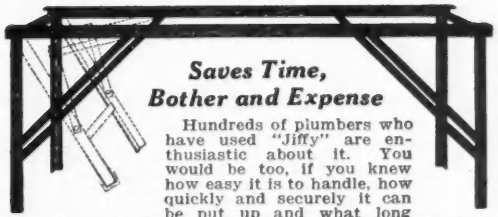

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Bother and Expense

Hundreds of plumbers who have used "Jiffy" are enthusiastic about it. You would be too, if you knew how easy it is to handle, how quickly and securely it can be put up and what long years of service it will give. Made of heavy angle iron. Braces of heavy steel, coated with durable black paint. It's a money maker for you. Go see the "Jiffy" at your jobber.

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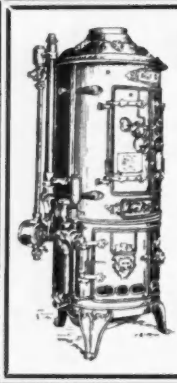

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Special sales helps for those who want to get ahead.

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**No More Back Water**

where the SIGNET Drain is used.

Keeps basement dry, clean and sanitary. A positive safeguard, either wet or dry, against sewer gas and water.

Brass working parts submerged—works automatically by gravity.

Always works. Always satisfactory.

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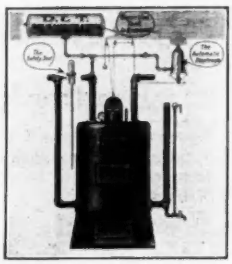
by installing the system most economical to maintain—the

**D & T**
**Tank-in-Basement System**



costs less to install than others; permits use of smaller pipes; speeds up circulation; always makes a satisfied customer and gives you a good profit.

Write for Booklet and more details.

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**One of the Many Styles of N. P. Cast Body Lavatory Traps We Manufacture**

The following are some of the points we claim for our goods:

**Deep Water Seal**
**Full Size Waterway**
**All Cast Parts**
**Artistic in Design**
**Superior in Finish**
**Smooth Inside and Out**

**AMERICAN SANITARY MANUFACTURING CO.**
**Abingdon, Illinois**

Fig. 300

*Manufacturers of Fine N. P. Brass Specialties*


residence that is to be erected at 377 Tyler Street for Joseph Frost.

M. J. Daly, of 200 Plummer Street, Hammond, has received the contract for the installation of the plumbing in two new cottages for E. N. Bunnell.

Charles Oberlin, of South Bend, will install the plumbing and heating systems in the new $10,000 addition to the Malleable Steel Range Company's plant in that city.

J. McGuire, of 911 Calumet Avenue, Hammond, was the successful bidder for the plumbing contract on fifteen residences that are to be erected there for John F. Wilhelm.

Victor Knauth, of Busseron Street, Vincennes, has received the contract for the installation of the plumbing and heating in the new Farmers' State Bank building which is to be erected soon at Broadway and Seventh Streets, Vincennes.

H. E. Shreiner, of 522 Main Street, Elkhart, has received the plumbing contract on the new residence which is to be erected for Mrs. W. H. Holland, 429 High Street. The heating contract was awarded to Roland & Miller, of 110 East Lexington Street.

Prox & Burgett, of Terre Haute, were the successful bidders for the plumbing and heating contracts on the new $8,000 warehouse which is to be erected for the Buettner & Shellburne Machine Co.

## Kentucky

### Louisville and Vicinity.

At a recent meeting of the Louisville Board of Water Works, President S. Zorn was authorized to take bids on the building and installation of a new pumping engine for the Crescent Hill pumping station, which will have a capacity of from thirty to forty million gallons a day. The board also authorized the company to proceed with the improvement of the river pumping station, the construction of a new boiler house, coal handling plant, boilers and boiler equipment for the river station.

The Bourlier Sheet Metal Works, of Louisville, recently secured a permit for the erection of a frame and brick factory at 912-914 South Eighth Street.

For the purpose of relieving shippers as far as possible of an increased volume of detail work in shipping procedure ordered by the government, and to speed up the movement of freight in all directions by consolidating less than carload shipments into to carloads between terminals, the Louisville Public Warehouse Co. recently announced the completion of plans to establish a freight forwarding branch. This branch will be in charge of W. H. Newman, formerly division freight agent of the Monon.

For the purpose of taking up matters pertaining to organization work of the industrial zone, in which Kentucky has been placed by the War Industries Board, a delegation from the Louisville Board of Trade recently went to Cincinnati. George Laib, of the Laib Co., and the Columbia Sanitary Manufacturing Co., was a member of this delegation.

J. W. Oliver, of the Standard Sanitary Manufacturing Co., and president of the Louisville Board of Trade, was chosen as chairman of the War Industries Committee. The purpose of the committee is to establish a bureau in Washington, through which an effort will be made to secure for the industries of Louisville a greater proportion of war material contracts.

A fair contract was recently secured by M. J. Duffy & Sons, Louisville, when they were awarded the contract for the installation of the plumbing in the St. Brigid's Rectory.

Haller & Zehnder recently secured the contract for the installation of four showers for the Louisville Soap Co. in Louisville.

# Ohio

### Cleveland and Vicinity.

A. Kaufman, 2354 East 61st Street, has the plumbing contract, and Isidor Bresinsky, 1010 Cedar Avenue, the heating contract, on an $18,000 apartment at 934 Lakewood Road, being erected by M. Lewin.

The Spitz Plumbing Co., 9114 Blaine Avenue, has the plumbing contract on Alfred Smith's residence on Saywell Avenue, near East 123rd Street.

Maurer Bros., of 3714 Lorain Avenue, are engaged on the plumbing contract for $150,000 office, machine shop and foundry building of the Monarch Brass Co., on East 45th Street near Payne Avenue. Edward Maurer of this firm is president of the Master Steam Fitters' Association of Cleveland.

H. E. Abbey, 12231 Edwin Court, has the plumbing contract, and Earl E. Jones, 11817 Hamel Avenue, the heating contract on the $10,000 residence on Scarborough Road, Shaker Heights, for Fulton & Taylor, engineers in the Hippidrome Arcade. Mr. Abbey also has the plumbing contract on five residences on Rugby Road, for H. H. Howard.

The Ohio Delegation at the St. Louis Convention.—From "Domestic Engineering" Photo.

O. E. Hawk, president of the Hawk-Palmer Co., of Youngstown, is in charge of plans which are being pushed, with the active interest, if not the co-operation, of the Government, for the construction of thousands of modest homes for the rapidly increasing population of workers in the various war industries in and around Youngstown. It is hoped that the Government may be induced to expend a large sum, stated as high as ten million dollars, in work of this sort, as the numerous big steel plants and other operations in the Youngstown district are of vital importance to the war work of the Government, and at present it is impossible for the workers to be housed. It is stated that 3,000 families left Youngstown last year, because they could not be taken care of. As an appropriation of $60,000,000 has been made by Congress to expend on housing investments for war workers, it is believed that the sum indicated, $10,000,000, can perhaps be secured for expenditure in and around Youngstown, including Warren, O.


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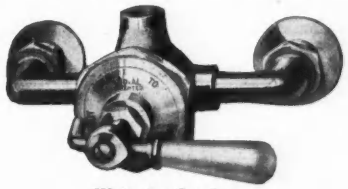
Simple in Operation—Few Working Parts.



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NO ROOF IS SUPERIOR TO ITS FLANGE

Therefore, some PLUMBER is the father of every leaky roof.

*The Bullard Roof Flange*

is acknowledged as the only PERFECT FLANGE by busy men who have made satisfying installations.

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Dole PACKLESS GRADUATED RADIATOR VALVE

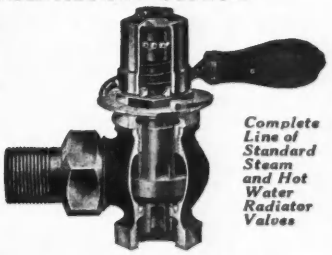
Embodies a new and exclusive DOLE principle by which you can have every degree of opening required in vacuum or vapor steam heating.

This Adjustment is easily made while the steam is on.

Nothing like it on the market.

Furnished with the DOLE without extra cost.

Write for new circulars.



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TRY BLUE SEAL AT OUR EXPENSE

This liberal offer is for plumbers who have never used BLUE SEAL. It gives an opportunity to try at our expense the original Money Back Drain Pipe Solvent.

Cut out this advertisement, mail it direct to us with your own address—and your jobber's. We will then send you, transportation charges prepaid, six one dollar cans (2 lbs.) BLUE SEAL

DRAIN PIPE SOLVENT

Use these six cans according to directions to clear waste and drain pipe stoppages. If the Solvent does all we claim for it you are to send us $3.60 (special price for plumbers) within ninety days. If not the trial costs you nothing.

10,000 plumbers now use Blue Seal. Our 300 jobbers stock, sell and recommend it. If you haven't used it, this is your opportunity.

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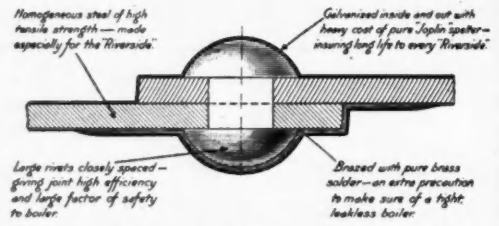
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Just mention Clean Sweep Traps.

You will get them.

The Government uses them, and everybody else, nearly.

In either Lead or Brass.

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***Sole Manufacturers***
**Second Ave. and Antoinette St.**
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# Pennsylvania

### Pittsburgh and Vicinity.

Building has been so seriously handicapped in this district, as it has been practically everywhere by demands for increased wages and interruptions from various other sources, that adjustments recently made here with trades workers are hailed with a great deal of satisfaction. There is reason to believe that building will now take a spurt, and that conditions will be much more satisfactory to everybody concerned.

"Free lemonade, peanuts, cigarets and tobies will be served on the grounds all day." This announcement is said by the committee in charge of the annual outing of the Pittsburgh Building Trades, which takes place at "The Pines," on Thursday, June 27th, to make certain that a record-breaking attendance will reward their efforts this year. According to Chairman W. E. Goldman, of the entertainment committee, this is going to be the banner outing of the association. War Savings Stamps will be sold, and everybody, who partakes of the "free entertainment," will be expected to come across for Uncle Sam.

John Cowley, a master plumber of 124 South Sheridan Avenue, is mourning the loss of $155, which he says was stolen from him recently by a clever pair of boys. Cowley reported the loss to the Frankstown Avenue police station but the money, it is said, has not been recovered. Cowley had drawn a sum from the bank to pay his workers off and was placing it in a drawer of his desk when a boy knocked at a rear door. When he answered the knock, another boy came in the front door and took the money from the desk.

Separate bids are being taken on the plumbing and heating for a school building at Farrell, the approximate cost of which is to be $100,000.

Bids were too high for ten garages on Thirty-ninth Street, owner L. Rossman. New bids are asked by L. O. Brosie, architect, Highland Building.

Architect George O. Rogers, Hartje Building, will take bids until July 1st for a block of six houses on Jackson Street, owner William Aiken.

Bids are being received for the construction of a dormitory for the Y. M. C. A. at Forty-third Street, owner, Pennsylvania Railroad Co.

William Bryan has the contract for the plumbing work in a large residence on Dellafield Avenue, Aspinwall, and Joseph A. Langdon & Sons Co., has the heating contract. The same concerns have the contracts for another large residence on Brilliant Avenue, Aspinwall. George O. Rogers, Hartje Building, is the architect.

The heating and plumbing contracts for alterations to a large building, at 645 Smithfield Street, have been awarded the A. & S. Wilson Co.

### Philadelphia and Vicinity.

George Wismer, 523 North Fortieth Street, will install modern plumbing in a store at 440 Market Street.

W. G. Cornell & Co. have been awarded the contract for the installation of plumbing in a building for the Government on League Island.

D. F. Durkin, Jr., 1613 Pine Street, will install plumbing in a new hospital at Fifty-fourth Street and Cedar Avenue.

W. H. Zimmerman, of Lansdale, has been awarded the contract for installing plumbing in a new hospital and sanitarium in Eagleville, Pa. He will also install plumbing in two large residences in Langhorn, Pa.

W. J. Morgan, of Fifty-ninth and Master Streets, will install plumbing systems in 500 houses, being erected for government employes by the United States Shipping Board.

E. R. Shollenberger, of Hamburg, will install new plumbing and heating sytems in the new postoffice at Palmerton, Pa.

H. Manning, of 825 Spring Garden Street, will install new plumbing in the H. Miller country home.

M. Gallagher, of the plumbing firm of Simon & Gallagher, of 443 North Sixty-third Street, has enlisted in the navy and expects to see real fighting soon. Mr. Simon will conduct the business during his absence, having just secured a contract for the installation of plumbing in ten new houses.

**Joseph A. Weldon and S. A. Patton, both of Pittsburgh, Pa. —From "Domestic Engineering" Photo, Taken at the St. Louis Convention of the National Association of Master Plumbers.**

# Massachusetts

### Boston and Vicinity.

The war has put a damper upon many of the customary mid-summer outings, of master plumbers' associations in Massachusetts, and the prospects are that few will be held. Business conditions also have had some effect along this line. The matter of naming a committee to arrange for the outing of the Master Plumbers' Association of Boston and Vicinity, which ordinarily is the biggest event of the kind in this state, was broached at a recent meeting of the association, and after a brief discussion was laid on the table without action. In some other cases associations have taken definite action against the proposition.

Leslie E. Morrison, inspector of plumbing for the city of Medford, has gone into Y. M. C. A. war service. He has been granted leave of absence by the city, and during the time that he is away the inspection work will be let out by the job.

Andrew J. Burnett, of Melrose, chairman of the Ways and Means Committee of the New England Association of Plumbing Inspectors, is making arrangements for the mid-summer meeting of the organization. The meeting probably will be held the latter part of this month or early in July, but the place has not yet been decided upon. At the mid-summer meeting the inspectors usually combine business and pleasure and Maine members have pointed out that some one of the islands in Portland harbor would make an ideal place for such a combination. One matter to come before the meeting will be the election of a president for the remainder of the year to succeed the late George G. Conron, of Stamford, Conn.

An interesting feature of the regular meetings of the Boston Master Plumbers' Association is the reading of letters from sons of members who are at the front. At the last meeting one letter brought the information that Raymond Cox, son of President E. W. Cox, had been

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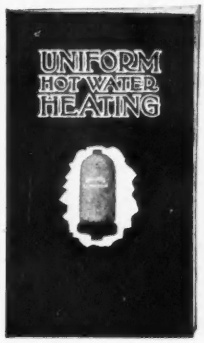


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Ball Seal Generator

for Hot Water Heating.

This generator increases circulation and radiation. Prevents sluggish, water-logged conditions. Reduces fuel cost. Operates without noise. No attention needed.

Just what you want for that next job.

The Ball Seal Generator Co.
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Watch This Space!
BARGAINS!

100 1¼" Penberthy Regrinding Globe Valves.
60 ¾" Walworth Gate Valves.
1", 1¼", 1½" and 2" Ex. Heavy P. & C. Checks.
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1" Galv. 45° Street Ells.
1½x1¼", 1¼x1", 1x¾", ¾x½" Galv. Mall. Ells. All new.
In what are you interested? What quantity?
1000 lbs. ⅜" Second Hand Caps, 10c lb.

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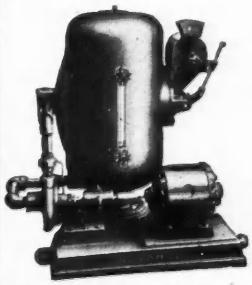
CONDENSATION PUMPS



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A standard line of Plumbers' Brass Supplies with an established reputation for
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The standard for 30-40 cal. boilers, and single coil heaters or equivalent. Has ¼-in. gas openings.
We Make All Sizes

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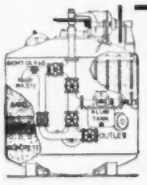
"HAAS" WATER CLOSETS
are high grade, insuring maximum service and minimum expense
PHILIP HAAS CO., DAYTON, OHIO

Makes No Noise

A Quiet Pump in Your Home
You can keep Pump noise out of your home by keeping out the kind of a Pump that makes a noise.
The Geo. J. Roberts Co.
Dayton, Ohio, U. S. A.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THE MARTIN PORTABLE VISE STAND AND PIPE BENDER
will bend ⅛ to ¾ inch without kinking. Chain or hinged, vise furnished as desired. Vise capacity 2 inch. Stands firmly anywhere. Patented Jan. 26, 1915.
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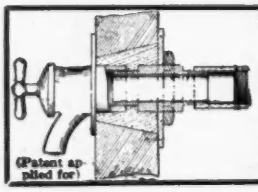

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is a practical device for laundry tray improvements. Easily attached. Holds bibb in place by nut and washer arrangement. Leak-proof. Saves time and money.
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THE LILGER COMPANY
1246 W. 72nd Place, Chicago, Ill.

promoted from lieutenant to captain in the field artillery. He is in France. The association service flag now has 42 stars, representing sons and employes in the service, and others are still to be added.

President Cox made an oral report on the recent National Convention at St. Louis at the meeting. A letter also was read from the Liberty Loan Committee of New England, thanking the association for its assistance in the recent campaign and particularly for having assumed all expenses in connection with its work.

The J. L. Hern Co., of 68 East Street, Dorchester, has been awarded the contract for installing a heating system in the English high school building, Boston, on a bid of $20,500.

The town of Avon at a recent town meeting made an appropriation for a new heating system in the town hall building.

Frank A. Sheehan, a Roxbury master plumber, has filed a petition in bankruptcy.

The Deane Steam Pump Co., which has a large plant at Holyoke, is to spend $19,000 for underground toilet rooms at its machine shop building. The general contract has been let to the Casper Range Construction Co.

# Minnesota

### Minneapolis.

Simpson & Co., have secured the contract for the installation of modern plumbing in the new Central Y. M. C. A. Building. This is probably the largest plumbing contract to be awarded this year in this city. Lew Johnson is the "& Co." of this firm. When not engaged in the plumbing business he is most likely to be found either on the links of a golf club or hunting or fishing.

Edward Sahler, one of the old-time master plumbers of Minneapolis, formerly a partner in the plumbing firm of Sahler & Maurud, has just been appointed plumbing inspector in the Department of Health of this city.

### St. Paul and Vicinity.

Recent plumbing permits issued by the St. Paul plumbing inspector include one to Robert H. Baird for work in the Capital National Bank Building, Fifth and Robert Streets. The contract calls for nine closets, five wash stands, one slop sink and one urinal, etc.

The Farrell Plumbing & Heating Co. took out a permit for plumbing work on the two-story brick building of the Albinson Construction Co., at Como Avenue and Knapp Street. The specifications call for eleven closets, ten bath tubs, ten wash basins, ten kitchen sinks, and two wash trays.

A permit to a local plumber is held up to determine whether the remodeled building corresponds with the new St. Paul housing code in connection with work on the second and third floors of a building at Summit Avenue and Wabasha Street, which calls for twenty-four closets, bath tubs, wash stands, and kitchen sinks.

W. J. Topley has secured a permit for plumbing work on the plant of the Textile Manufacturing Co., on University Avenue.

J. F. Gerlach will install the plumbing for M. Werner in a structure at Woodbridge and Geranium Streets.

Other permits include: To Wm. O. Bergstrom, Mrs. Peterson's house, 1133 Reaney Street. To J. Ed. Treise, house at Wakefield and Hudson Avenues. To Paul F. Manteuffel, structure at 822 South Robert Street, owned by M. W. Simmonds; also on a bungalow for Axel Johnson, 1140 Pacific Street.

# Washington

**Seattle and Vicinity.**

Plumbing and heating contractors, of Seattle, as a whole, report nothing new or particularly startling in the way of new business or increased activities along their lines at this time, although there are several big projects in the offing which will mean much to the trade.

Perhaps, the big Government housing project at Bremerton, near Seattle, commands the attention of the trade more than any other one proposition. The work contemplated and announced consists of the construction of between 400 and 600 residence buildings, three or five apartment buildings and a huge hotel, covering practically a block. The initial cost of the project will be between $2,500,000 and $3,000,000; the ultimate expenditure between $5,000,000 and $6,000,000. The housing will be for employes of the Puget Sound Navy Yard at Bremerton. The population of that city has practically doubled since the United States declared war on Germany; further development of the Navy Yard has meant large increases in the number of employes, until today the housing facilities are so inadequate that progress in the work of constructing and repairing ships is being retarded. Therefore, Otto M. Eidlitz, Director of Housing, U. S. Dept. of Labor, urged and received an appropriation from the Government to care for the immediate construction of additional facilities for housing employes at the Yards. One hundred and seventy-five acres of land, in the residential section of Bremerton, lying nearest to the Navy Yard, has been commandeered, and A. H. Albertson, Henry building, Seattle, appointed architect in charge of the Governmental Housing Program. Plans and specifications are under preparation, and A. H Albertson and staff will have supervision of the construction activities. Neither the general nor sub-contracts, including plumbing, heating, wiring, etc., have been awarded to date, but action looking toward awarding these contracts is expected to be taken about June 20th. Details of how the general and sub-contracts are to be handled have not been announced, but Seattle men of the trade are looking forward to receiving a nice share of the work.

Another project of considerable importance has been called to the attention of Seattle and Northwest plumbing and heating contractors in the awarding of a contract by the Government for the construction of additional cantonment buildings at Fort Worden, headquarters for the Puget Sound Coast Artillery Defenses. This contract which was let to A. W. Quist & Co., Hoge Bldg., Seattle, calls for the construction of seven units of standard cantonment construction, with additional contemplated construction of three storehouses. Each unit will consist of seven buildings, two officers' quarters, two barracks, one messhouse and one shower bath house. The cost will approximate $100,000, exclusive of the contemplated warehouses. It has not been definitely decided how the plumbing and heating contracts will be handled, but it is thought they will be sub-let by the general contractors.

F. C. Hellenthal, heating and ventilating engineer, of Seattle, has closed his office for the duration of the war, and enlisted in the Navy. Mr. Hellenthal has been in business in Seattle for about eight years, and has established a reputation among men of the trade in the Northwest.


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**Simple Sanitary Satisfactory**
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*Manufacturing Chemists* Pittsburgh, Pa.
K-K Cleans closet bowls "the sanitary way."

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Efficient Deep Well Pumps with Hyatt Roller Bearings and silent chain drive, pumping capacities 150 to 2,000 gallons per hour. Write for bulletins and price sheets.
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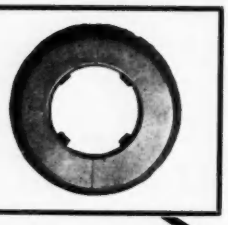
# Warco



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Made in all sizes from ⅛-inch to 3 inches.

It may be cut to fit any condition. Can't break and will stay where it is placed.

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## Turn to the Farm for Business

Good crops and high prices now enable farmers to make long-delayed improvements. Government reports show that the greatest need on the average farm is an adequate supply of fresh water for house and barn.

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This system is designed to supply farms suburban and country homes, clubs, schools, etc., with a constant supply of water direct from the well. No stored water—every drop fresh.

Milwaukee Air Power Water Systems are different from all others; give perfect satisfaction; easy to install; carry a liberal profit; equipped with a complete line of pumps for deep or shallow wells.

Our Agency Plan will interest you. Write us today for details and for information about advertising and selling helps supplied.

**FREE—"The Water Boy"**

An authoritative magazine on independent water systems. Explains the possibilities in this field and shows how plumbers and hardware men everywhere are cashing in on it. Postcard brings it 6 months—free.

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**832 Third Street,**
**Milwaukee, Wisconsin**


The Seattle School Board opened bids recently for the construction of the Daniel Bagley and Crown Hill School Additions. Low bids for general contract were submitted by John Larsen, Seattle, $24,725 for the Crown Hill School, and Finne & Gjarde, Seattle, $27,620 for the Daniel Bagley School. Following bids were submitted for heating and ventilating, (a) Daniel Bagley, (b) Crown Hill; W. D. Allen, (b) $5,150; Hellenthal Plumbing & Heating Co., (a) $5,250; P. J. Lavan, (a) $5,143, (b) $5,193; Norton & Spangler, (a) $5,687; Rautman Plumbing & Heating Co., (a) $5,283, (b) $5,283; J. A. Scherer, (a) $5,695, (b) $5,822; West Coast Heating Co., (a) $5,180; Wenzler & Ward, (a) $5,535, (b) $5,490; Dupar, Blythe Co., (a) $5,379, (b) $5,195. Plumbing: Hellenthal Plumbing & Heating Co., (a) $3,713; Rautman Plumbing & Heating Co., (a) $3,740, (b) $3,970; J. H. Stack, (a) $3,941, (b) $4,361; P. J. Lavan, (a) $4,200, (b) $4,300; Pepper Plumbing Co., (a) $4,258, (b) $4,575; Wenzler & Ward, (a) $4,290, (b) $4,700; Dupar, Blythe Co., (a) $4,327, (b) $4,560; Norton & Spangler, (a) $4,381; J. A. Scherer, (a) $4,783, (b) $5,072. All bidders located in Seattle. The bids were taken under advisement by the School Board.

The Liberty Construction Co., 302 New York Block, Seattle, recently capitalized at $25,000, plans to start work in the immediate future on thirty-two frame residences on Jefferson Street and Fourteenth Street.

Architect A. C. P. Willatzen, Boston Block, Seattle, is preparing plans for a frame church 33x68 feet, to be located at 24th Avenue and Spruce Street. Heating plant will be installed.

Architect James Shack, Lippy Building, Seattle, has completed plans for five new residences to be built by the Curtis Home Co., in the Montlake Addition, near the Government Ship Canal.

### Spokane and Vicinity.

City Building Inspector issued, during the month of May, seventy-three building permits, representing $58,795, as compared with 112 permits for $476,310 in the same month of last year. The first five months of 1918 show a decided falling off as compared with the same period for 1917. Returns for March indicated an upward trend in building that has not materialized. However, an encouraging feature of the building situation is the large number of residences constructed and being planned for early construction.

James Smyth, president of the Smyth Plumbing & Heating Company, Spokane, Wash., has gone to Washington, D. C., to devote his entire time to aiding the Government, without charge for his services. The Smyth Company has had some of the largest government heating and plumbing contracts that have been awarded. H. B. De Long, former Vice-President of the Company, is now a major in the regular army.

### Tacoma and Vicinity.

Total building figures for April and May are more than double those of the same period for 1917, and the first quarter of 1917 shows a similar condition as compared with last year. There is no indication of a cessation in building activities, and despite the large number of private residences built, the demand continues. Detached dwellings supply the largest item in the month's totals, indicating the influx of workers. Plumbing and heating contractors are experiencing a remarkably busy and prosperous season.

W. F. Cotton, of Tacoma, will construct sixteen bungalows in the Smelter district, and six dwellings on the old Y. M. C. A. grounds, to cost about $2,000 each.

# California

### San Francisco and Vicinity.

Land has been purchased and bids will soon be invited for the general contract on the new college for women to be built by the Sisters of the Convent of the Holy Name, at Oakland. The building is to cost one million dollars and will be situated in Piedmont.

Bids have been called for the furnishing and installation of a heating system in Alameda High School.

The Pacific Telephone & Telegraph Co., 333 Grant Avenue, San Francisco, has let the contract for the plumbing, heating and mechanical ventilation of its six-story office building to Carl T. Doell, 467 Twenty-first Street, Oakland. The engineers are E. V. Cobby and C. W. Burkett, 333 Grant Avenue, San Francisco.

M. A. Slattery, 730 Clement Street, San Francisco, is installing three toilets and two lavatories for the Western Pacific Railroad Co., Mills Building.

Bids are being invited for the three-story apartment house to be erected on the corner of Vallejo Street, near Hyde, at a cost of $30,000.

Samuel McClure, Bellevue and Primrose Streets, has been awarded the general contract for a $35,000 two-story hotel to be erected at Cyprus Avenue and Lux Street, Burlingame, for Frank S. Fusco.

The Gilley-Schmid Co. is installing the steamheating and oil-burning system in the First National Bank Building, at Fairfield.

### Other Cities in the State.

The Rockwood Sprinkler Co., of Los Angeles, will install an automatic sprinkler system in a two-story and basement building for Miss Annie E. Rose, Spring Street, for $6,156.

The general contracts for the high school building at Arcata, have been rejected, and the three lowest bidders asked to re-figure.

Reilly & Murphy, of Stockton, have the general contract for the construction of a $110,000 apartment building to be erected in that city for W. H. Bennett. Subcontracts will be let within the next week.

The state engineer in Sacramento is calling for bids for the installation of plumbing, ventilating, gas fitting and heating systems in the main building of the state normal school at Arcata.

The State Department of Engineering, at Sacramento, is receiving bids for the installation of plumbing and heating in the Pathological Laboratory, and the Distributing Cottages for Convalescents, to be erected at the Napa State Hospital.

A movement is on foot at Merced for the erection of a modern type hostelry of adequate size, containing family apartments, bachelor annex, night grill, theater, swimming pool and other suitable quarters for motor-car travelers. This movement is due to the unprecedented travel to Yosemite Valley during the last two years, which overtaxed hotel accommodations at Merced.

The Board of Education at Stockton is taking bids for the plumbing, wiring, heating and ventilating of the new school building to be erected at East and North Streets, in that city, at a cost of $50,000.

J. R. Gilbert and L. H. Dean, of Visalia, have purchased the plumbing shop and sheet metal works of the Exeter Mercantile Co., at Exeter, and have taken charge of the business.


## Value Received

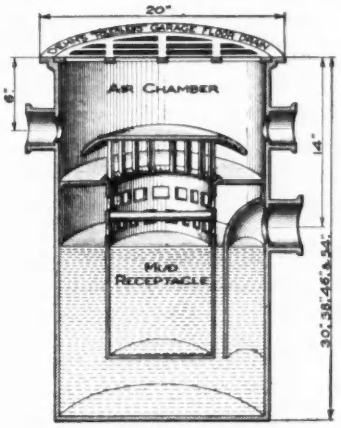


Fig. 62 Patented

When you install Dehn's "Peerless" Garage Drains your clients never stop talking about it. A wonderful installation. Value received.

**1897 — 1918**

**COMPOUND INJECTOR & SPECIALTY CO.**

***Originators, Designers and Sole Manufacturers of Dehn's Sanitary Safeguards***

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## Will Last a Lifetime

**SHERWOOD**

**Aluminum**

**Closet Seats**

are break-proof, never wear out or come apart.

Strictly sanitary. Easily kept clean with soap and water.

Explain to your client the advantages of the SHERWOOD and he will want it.

Made in a number of styles.

A winner for the plumber.

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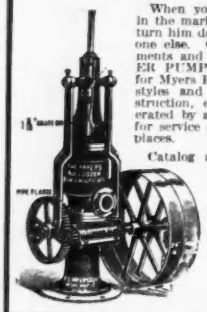
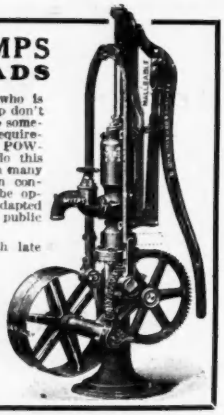
***Largest Manufacturers of Aluminum Tanks and Seats in the World***

**MYERS POWER PUMPS AND WORKING HEADS**



When you have a customer who is in the market for a power pump don't turn him down and send him to someone else. Get a line on his requirements and sell him a MYERS POWER PUMP. You can easily do this for Myers Power Pumps come in many styles and sizes, are simple in construction, easy to install, can be operated by any power and are adapted for service in private homes or public places.

Catalog and information with late prices furnished on request.



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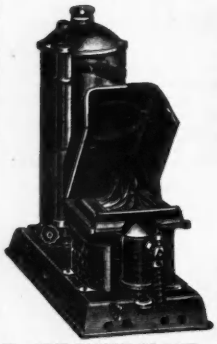
ASHLAND OHIO

**Results Are What Count**



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The letters of the words, "DOUBLE BLAST," aptly represent many important and superior points in the construction and operation of the DOUBLE BLAST. Read them over.

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| Double Burners | Best |
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| Blue Flame | Safety |
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Leading jobbers handle them. If your jobber does not handle them, send us your order and we will ship direct. Additional information and circulars will be furnished upon application.

No. 25 DOUBLE BLAST

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**Wolverine Knurled Expansion Bolts**
with Bull Dog Grip.

Complete LineListed In Catalog "H"

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MANUFACTURERS
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*Use Only the*
**ORIGINAL**
**Double Drainage Drains**

The Standard of America

Look for "JOSAM" on Every Drain

*Made by*
**JOSAM MFG. CO.**
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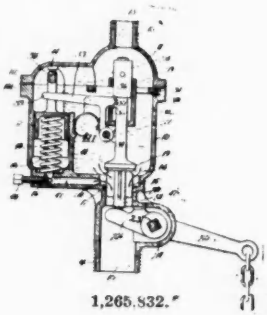
Southern Branch:
615 Empire Bldg., Atlanta, Ga.
Pacific Coast Branch:
1002-4 Merchants Nat. Bank Bldg., San Francisco, Cal.

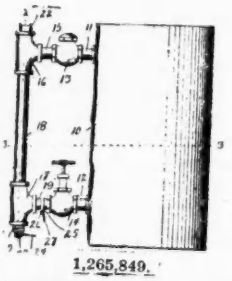

# Patents

## Plumbing Department.

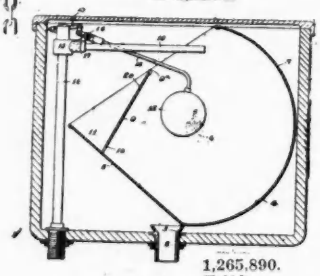
1,265,832. Flushing Valve. Burchard Thoens, New York, N. Y. In a flushing valve, the combination of a casing having an inlet and an outlet, a valve in said casing controlling said outlet, means for operating said valve, a device for holding said valve open, and means for releasing said device after a predetermined time so that said valve may close said outlet, said releasing means comprising a piston and a cylinder in which said piston works, said cylinder having a passageway connected therewith which constitutes an inlet and outlet for said cylinder, the outer end of said passageway being located near said valve controlled valve, the valve operating so that it will be on one side of the end of said passageway when the valve is open and on the opposite side when the valve is closed, whereby water may flow from said cylinder across one side of said valve when said valve is open and into said cylinder across the other side of said valve when the valve is closed.



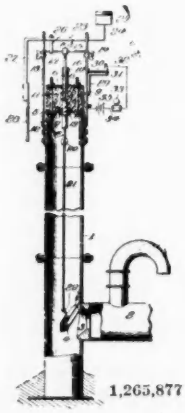
1,265,832.



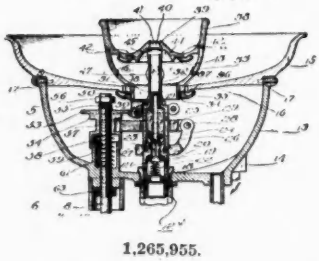
1,265,849.



1,265,890.



1,265,877



1,265,955.

1,265,849. Electric Water Heater. Jesse F. Wheelock, Dobbins, Cal. A water heating apparatus, comprising in combination, a water tank, a hollow column of conductive material rising parallel to the tank and having its upper and lower ends connected to communicate with the interior of the tank, said column being formed of electro-conductive material, an electric heating element rising

within the column in insulated relation thereto, a check valve between the upper end of the column and the tank and a regulating valve between the lower end of the column and the tank, the water in the column acting as a conductor between the heating element and the walls of the column and the quantity thereof determining the intensity of the heat, and the regulating valve determining the height of the water in the column, whereby to regulate said heat intensity.

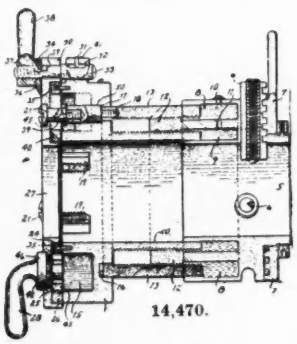
1,265,890. Flush Closet Tank. James A. Egan, East Onondaga, N. Y. A flush closet tank comprising a receptacle or tank having an outlet, and a normally upright capsizable bucket mounted in the receptacle or tank and arranged to return to its upright position when empty and to remain in its upright position when filled, the bucket being open at its top, and having a baffle plate extending from the open side to the wall on the discharge side of the bucket, said plate being formed with an outlet adjacent said side wall on the discharge side of the bucket, substantially as and for the purpose specified.

1,265,877. Safety Vent for Oil Storage Tanks. William M. Bowles, Shawnee, Okla. A vent for oil storage tanks having an outlet, a permeable filling of non-heat conducting material arranged within the said outlet, a tube extending through the said filling, a rod slidably mounted in the tube and fitting closely therein, a fusible element above the filling normally supporting the rod against downward movement within the tube, an inlet to the said vent, a valve for closing the inlet, and connection between the said rod and valve normally supporting the valve in open position.

1,265,955. Drinking Fountain. Joseph D. Ramsey, Dorchester, Mass. A drinking fountain, comprising water delivery mechanism having an upwardly directed orifice, a housing therefor having an aperture to permit issuance of the water delivered by said orifice and small enough to prevent insertion of a finger therethrough, and a guard movably mounted to open and close said aperture at will, said guard being located within said housing whereby it is protected from casual meddling.

**Heating Department.**

14,470. Die-Stock. James A. Phelps, Cleveland, Ohio, assignor to Borden Company, Warren, Ohio, a Corporation of Ohio. In a device of the character described, the combination of a work holder, a die holder having a screw



14,470.

threaded engagement therewith, a die carried by the die holder, a member having a screw threaded engagement with the work holder, the pitches of the above mentioned screw threads being varied, and operative means connected to the said member and die to move the die radially upon the die holder being rotated.

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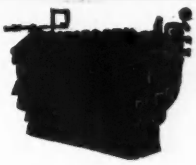
Pledge yourself to save to the utmost and to buy a definite amount of War Savings Stamps each month.


ECONOMY  EFFICIENCY

This is a
**Pierce Down Draft, Magazine Feed, Smoke Consuming, Heating Boiler**
**Saves** Fuel Labor
*Manufactured only by*
**PIERCE, BUTLER & PIERCE MANUFACTURING CORP.**
Brooklyn Boston Worcester — NEW YORK Syracuse — Philadelphia Baltimore Washington

**Eagle All Lead Roof Flange**

LEAD PIPE Length, 6 inches Diameter, 4½ inches Made in Angles, 45 deg., 22½ deg. and Straight.
SIZE OF APRON 15 inches Square
No Caulking To Be Done
Joints Lead-burned — No Solder Used
*Flexible Adjustable Economical*
Write for Circular and Prices.
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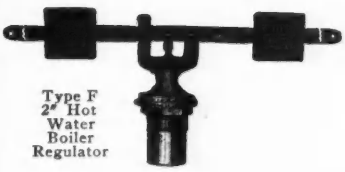
Hot Water Cold Water Vats-Kilns Pots-Dryers
The Famous Kingsbury Electro-Flush Valve

Type F 2" Hot Water Boiler Regulator
**National Regulator Company**
208-12 S. Jefferson St., Chicago

**PATENTS**

Over twenty years' experience in handling patent litigation, rendering opinions as to infringement and validity, and the preparation and prosecution of application for patents. References: Joseph A. Vogel Co., Wilmington, Del.; District National Bank, Washington, D. C.; Martindale's American Law Directory; Dun or Bradstreet. Correspondence invited.

**TALBERT & TALBERT, Patent Lawyers**
**5708 TALBERT BLDG. - WASHINGTON, D. C.**

# Classified Advertisements

**The charge for advertisements under this heading is $1.00 for 25 words or less, including heading and address; 4 cents each for additional words. To insure insertion, copy and remittance should reach us by Wednesday morning.**

### Situation Open

WANTED BY JOBBER—Experienced plumbing and heating salesman. No other need apply. Good territory—good opportunity. Address, Leighton Supply Co., Fort Dodge, Iowa. 6-15;22

WANTED—FOR CENTRAL WESTERN territory, competent salesman for plumbing and heating lines. One with knowledge of pump and windmill business preferred. State age, previous experience, salary expected, etc. Address 2533, care "Domestic Engineering," Chicago. 6-8; 15-22

### Situations Wanted.

WANTED—POSITION AS SALESMAN or manager of sales in brass goods and fittings business. Thoroughly posted. Address 2534, care "Domestic Engineering," Chicago. 6-8; 15-22

WANTED—UNION PLUMBER DESIRES steady position in Southwest. Have had thorough experience in all classes of work, including heating. High wages expected. Address 2540, care "Domestic Engineering," Chicago. 6-22

### Miscellaneous.

WANTED—PARTY WITH FIVE TO fifteen thousand dollars in wholesale and manufacturing concern in Middle West, with position on road or responsible position in office. Business well established and making good large profits. Bright future. Address 2536, care "Domestic Engineering", Chicago. 6-8; 29

SELL YOUR SURPLUS COUPLINGS and fittings. Write us. The A. & J. Mfg. Co., 557 W. Lake St., Chicago. tf

WE BUY IRON PIPE COUPLINGS—spot cash. How many, either pounds or pieces have you of various sizes? Gwilliam Supply Co., 615 Christian Street, Philadelphia, Pa. 10-6,tf

WANTED—A PIPE THREADING MAchine to cut up to 10 inches. State make, sizes it will cut, whether machine has been used or not, what condition it is in. Address Edward P. Bates Co., Inc., 228 West Water St. Syracuse, N. Y. 6-15;22

### Government Proposals

TREASURY DEPARTMENT, SUPERvising Architect's Office, Washington, D. C., June 1, 1918.—Sealed Proposals will be opened in this office at 3 p. m., June 28, 1918, for a toilet room for women in the United States Post Office and Court House, at Trenton, N. J., in accordance with the specification and drawing, copies of which may be had at this office or at the office of the Custodian, Trenton, N. J., in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect. 6-15;22

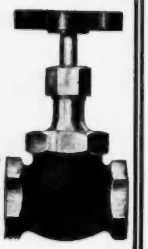
TREASURY DEPARTMENT, SUPERvising Architect's Office, Washington, D. C., May 27, 1918. Sealed proposals will be opened in this office at 3 p. m., June 25, 1918, for a new boiler, etc., in the United States courthouse, post office, etc., at Greensboro, N. C., in accordance with drawings and specifications, copies of which may be had at this office or at the office of the custodian, Greensboro, N. C., in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect. 6-15; 22

### Books for Your Trade Library.

| | |
|---|---|
| Sanitation in the Modern Home | 2.00 |
| Sanitary Sewerage of Buildings | 1.50 |
| Notes on Heating and Ventilation, Prof. John R. Allen | 2.50 |
| Practical Steam and Hot Water Heating and Ventilating, A. G. King | 3.00 |
| A Practical Manual of Steam and Hot Water Heating, Edward R. Pierce | 2.50 |

**Domestic Engineering**
**407 S. Dearborn St., Chicago**


MARSH
UNION BONNET
DOUBLE SEAT
VALVES



While we furnish a full line of high pressure Mill Supply Globe, Angle, and Gate Valves, we **Specialize on High Grade Radiator Valves,** and manufacture the **Largest Line** of any company in this, or any other country.

**ALL STYLES AND SIZES**

Let us send you catalogue showing line complete and quote prices on your requirements.

**MARSH VALVE CO. - - Erie, Pa.**

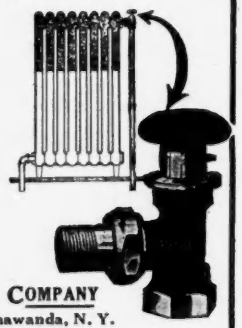
ADSCO HEATING

Atmospheric System, Steam or Vapor with the "ADSCO" Graduated Radiator Valve and "ADSCO" Regulator

**Will Save Your Patrons Coal**

The "ADSCO" Valve insures this saving because of positive control on each radiator.

Write for Bulletin 133-E.



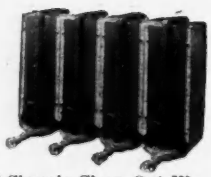
**AMERICAN DISTRICT STEAM COMPANY**
General Office and Works: No. Tonawanda, N. Y.
Branches: New York Chicago Seattle

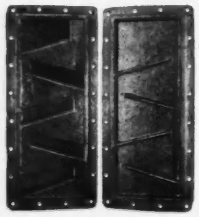
Why Waste Time

cleaning lime from the ordinary water heater? Use

**Sharp's Clean-Out Heater**

All parts easily accessible.





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A Battery of Sharp's Clean-Out Water Heaters. Any number of units may be connected together.

Adaptable for domestic purposes or house heating.

Easiest to clean out. Zig-zag water travel makes for highest heating efficiency.

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*Save 15% on Fuel*

It is your patriotic duty to install them. They are light, compact, quick-heating and save space. Can be hung on wall.

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